

Figure 1

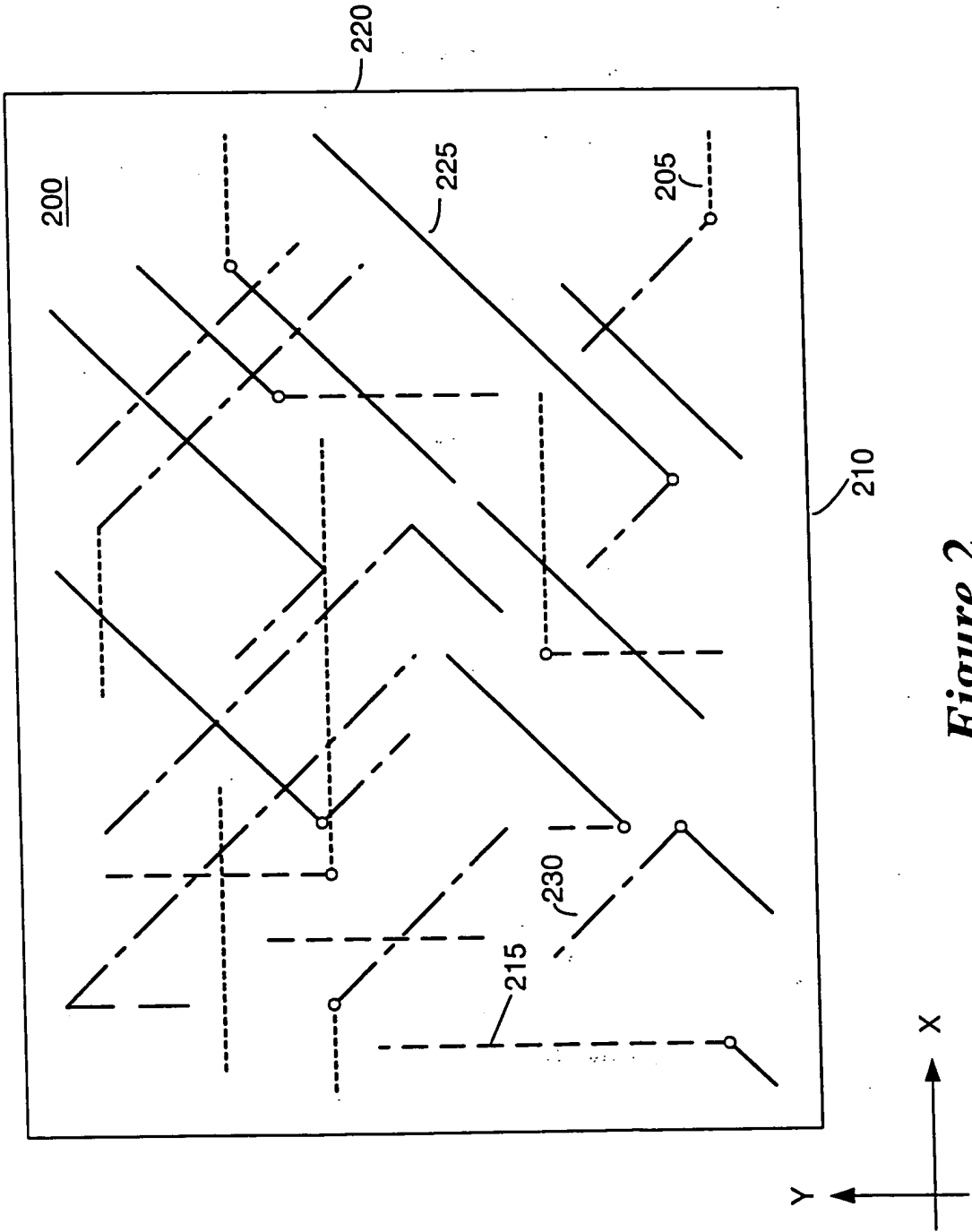


Figure 2

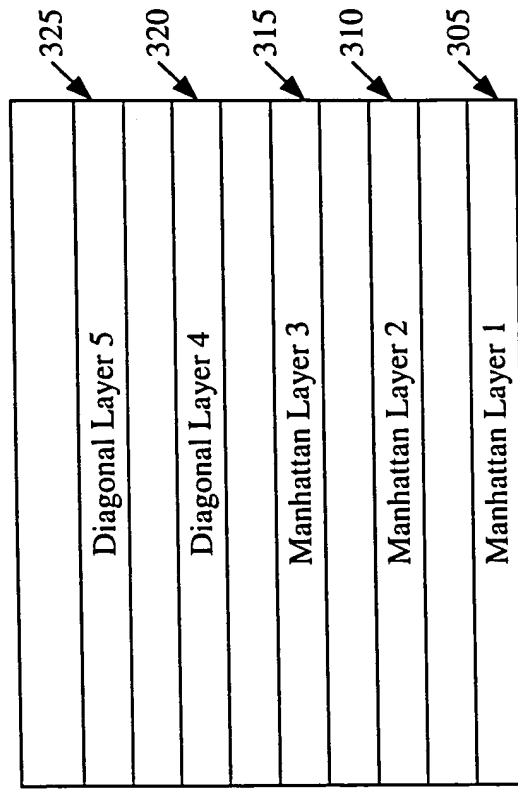


Figure 3

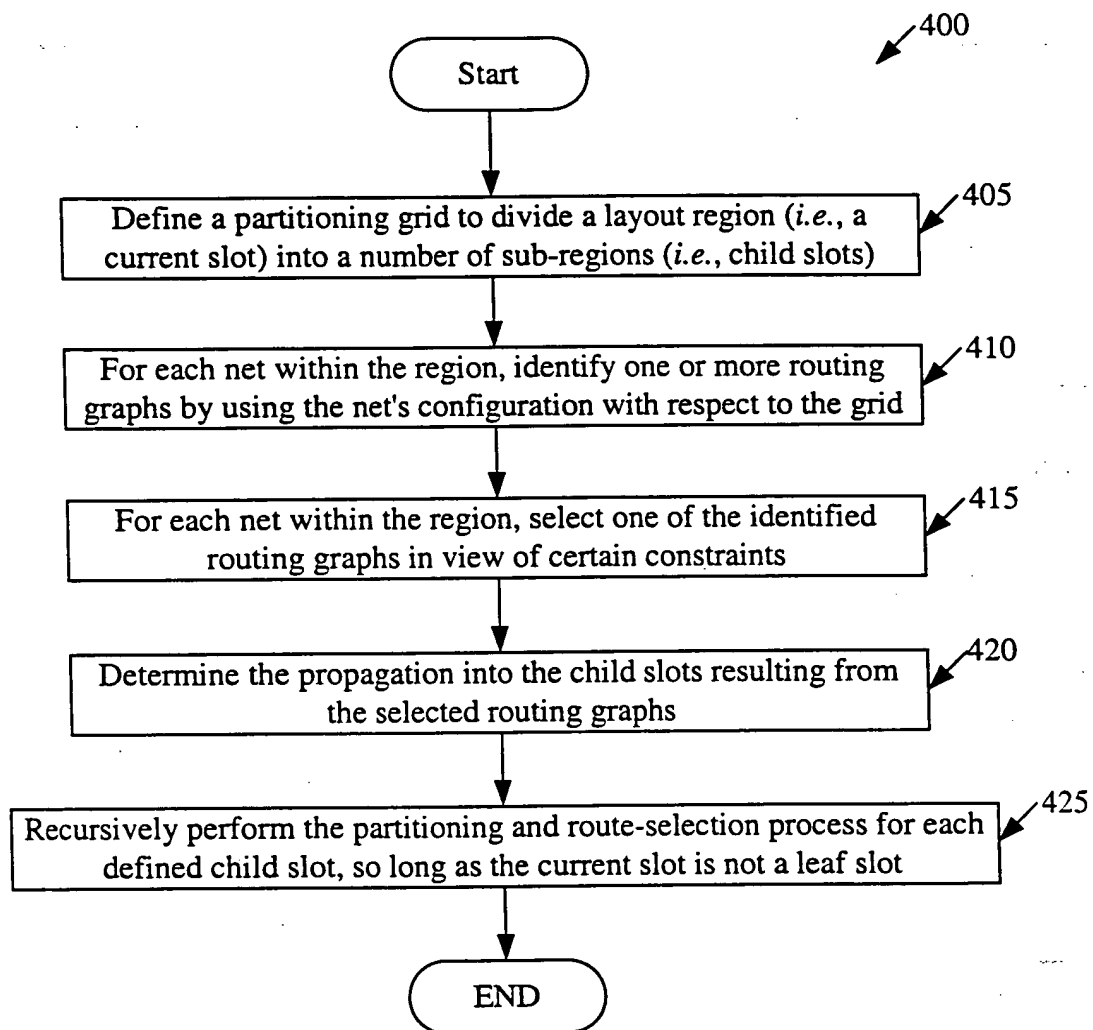


Figure 4

20EFT0"0003400T

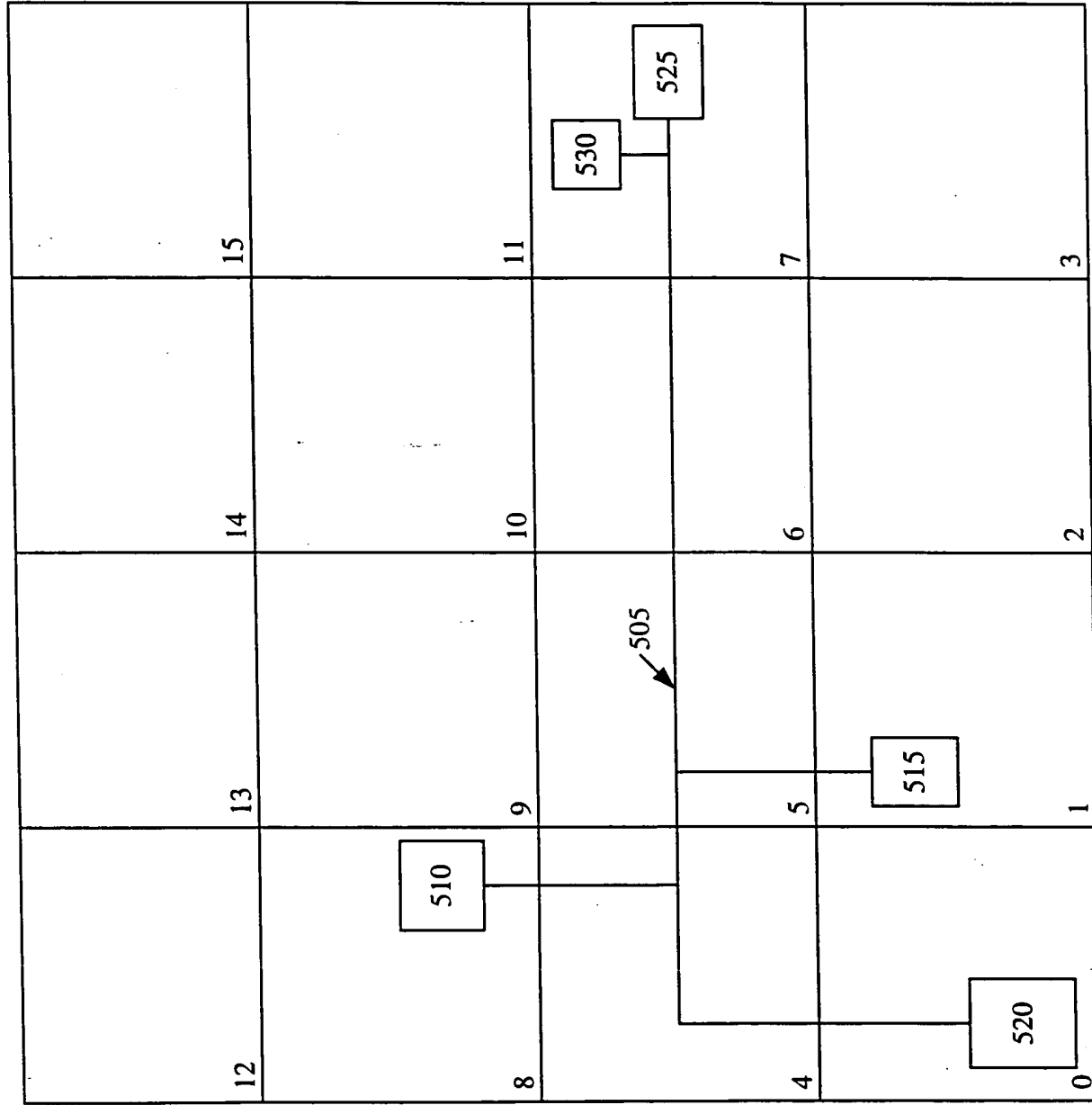


Figure 5

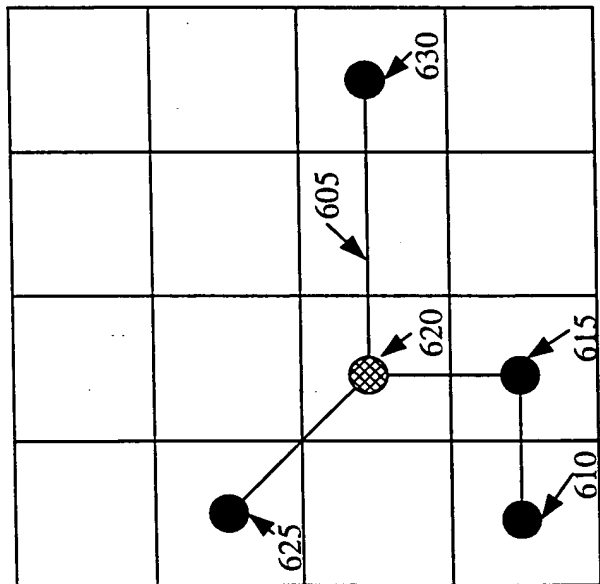


Figure 6

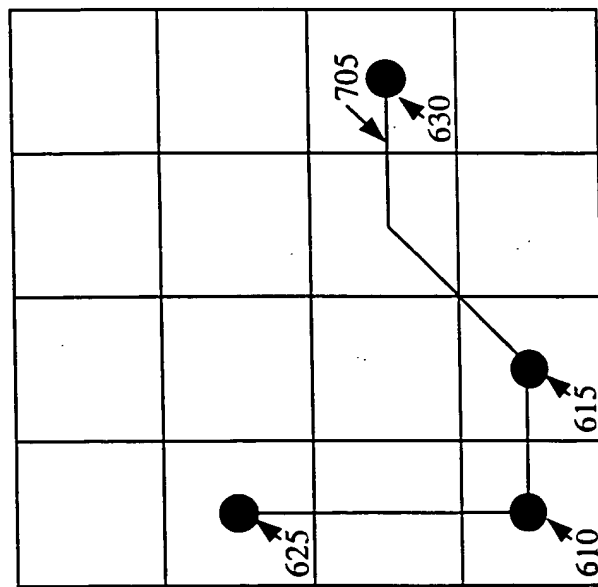


Figure 7

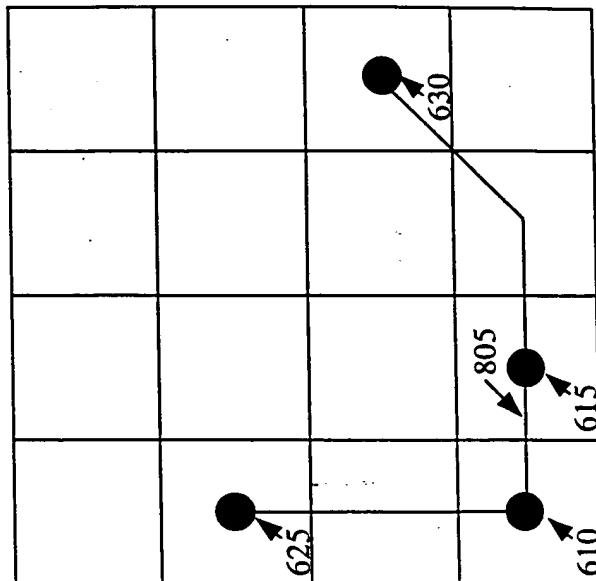


Figure 8

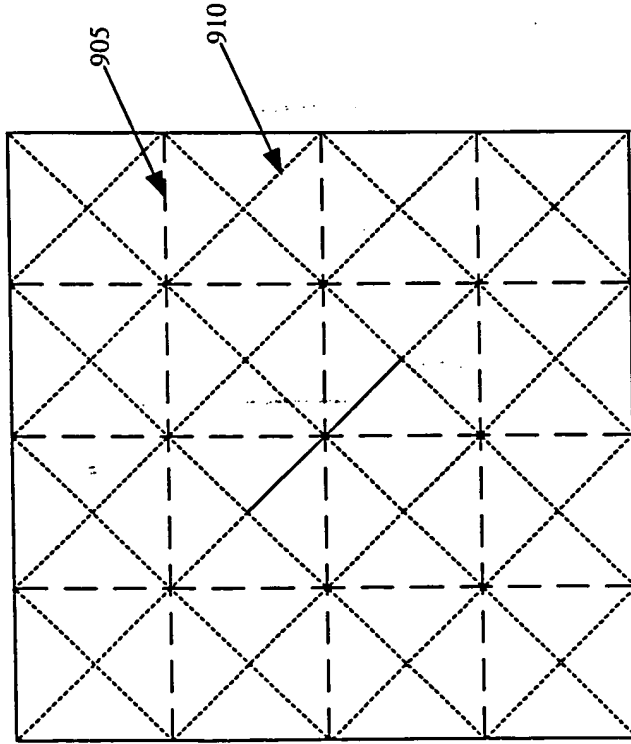


Figure 9

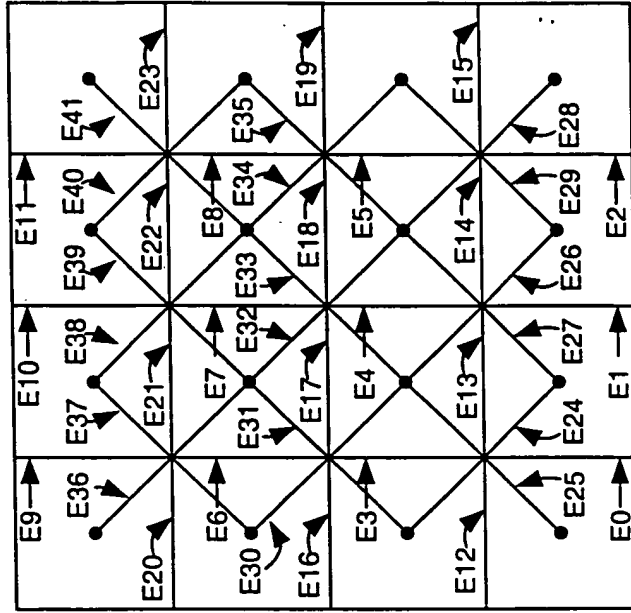


Figure 10

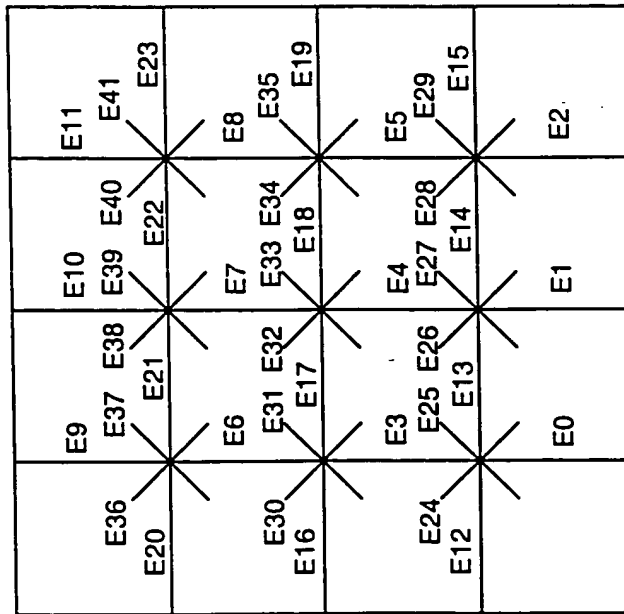


Figure 11

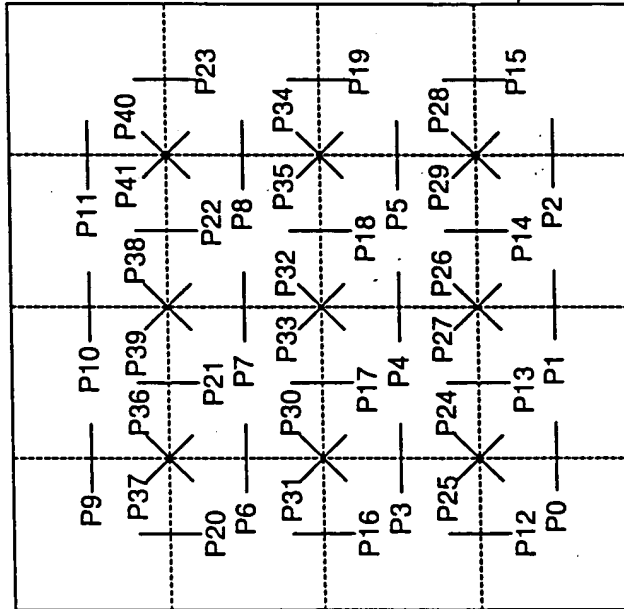


Figure 12

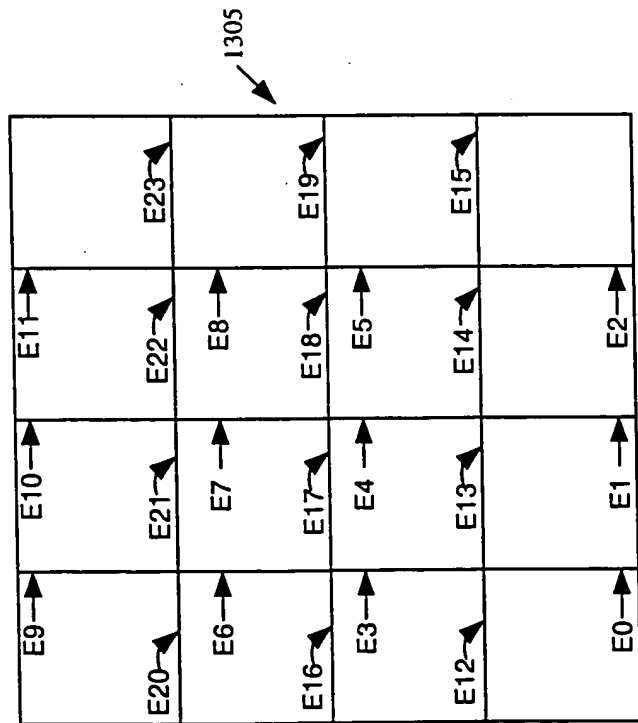


Figure 13

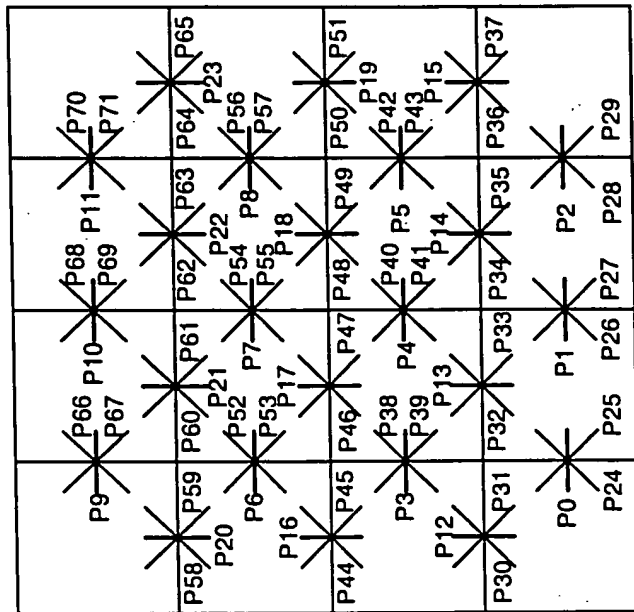


Figure 14

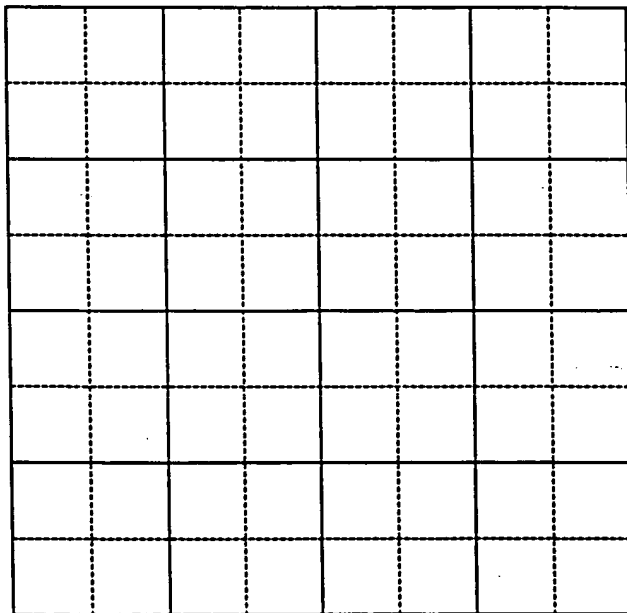
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Figure 15

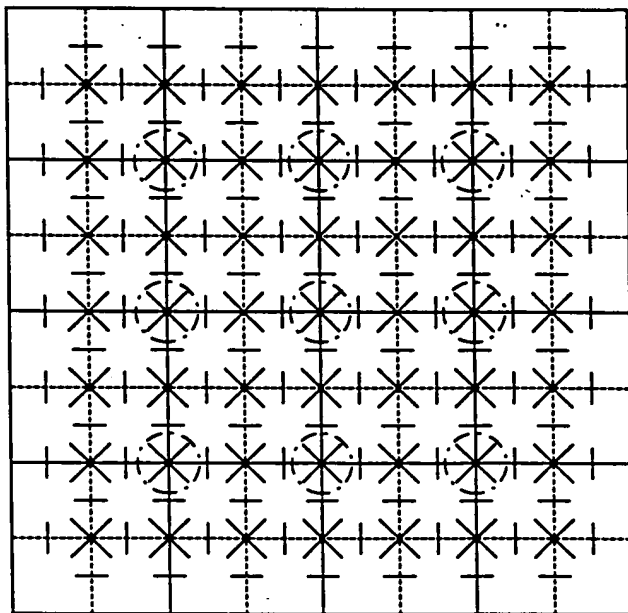


Figure 17

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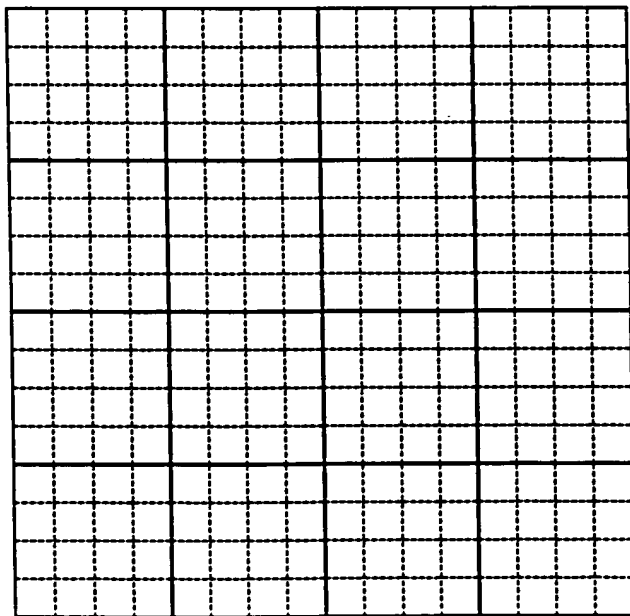


Figure 16

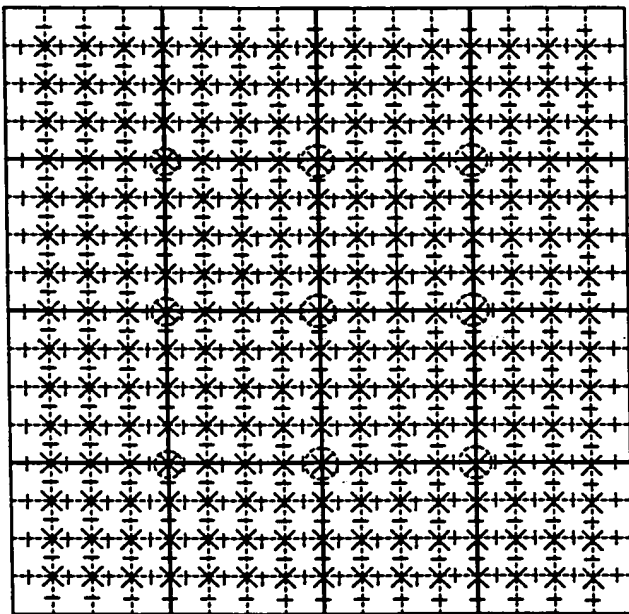


Figure 18

SECRET

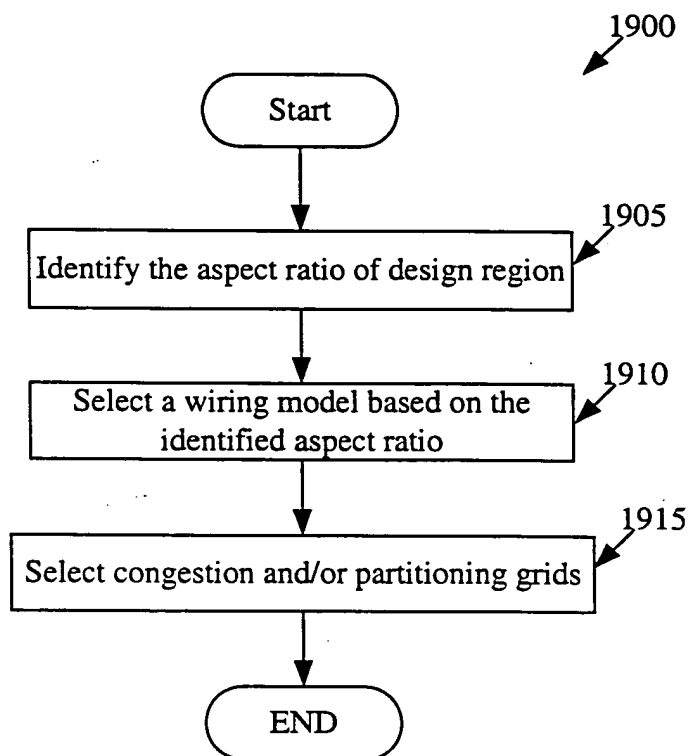


Figure 19

A blank Cartesian coordinate system with a horizontal x-axis and a vertical y-axis. The x-axis is labeled 'x' at its positive end, and the y-axis is labeled 'y' at its positive end. The two axes intersect at the origin, forming a cross shape. There are no tick marks or grid lines on the axes.



```

graph TD
    Start([Start]) --> D1{X1 > X2?}
    D1 -- Yes --> P1[XMax = X1; XMin = X2]
    D1 -- No --> P2[XMax = X2; XMin = X1]
    P1 --> D2{Y1 > Y2?}
    P2 --> D2
    D2 -- Yes --> P3[YMax = Y1; YMin = Y2]
    D2 -- No --> P4[YMax = Y2; YMin = Y1]
    P3 --> P5["Bounding box coordinates are (XMin, YMin), (XMin, YMax), (XMax, YMin), (XMax, YMax)"]
    P4 --> P5
    P5 --> P6["DX = (XMax - XMin); DY = (YMax - YMin)."]
    P6 --> D3{DX > DY?}
    D3 -- Yes --> P7["Long = DX; Short = DY"]
    D3 -- No --> P8["Long = DY; Short = DX"]
    P7 --> P9["Distance = [Long - {Short (cos a / sin a)}] + Short/sin a"]
    P8 --> P9
    P9 --> End([END])

```

Figure 21

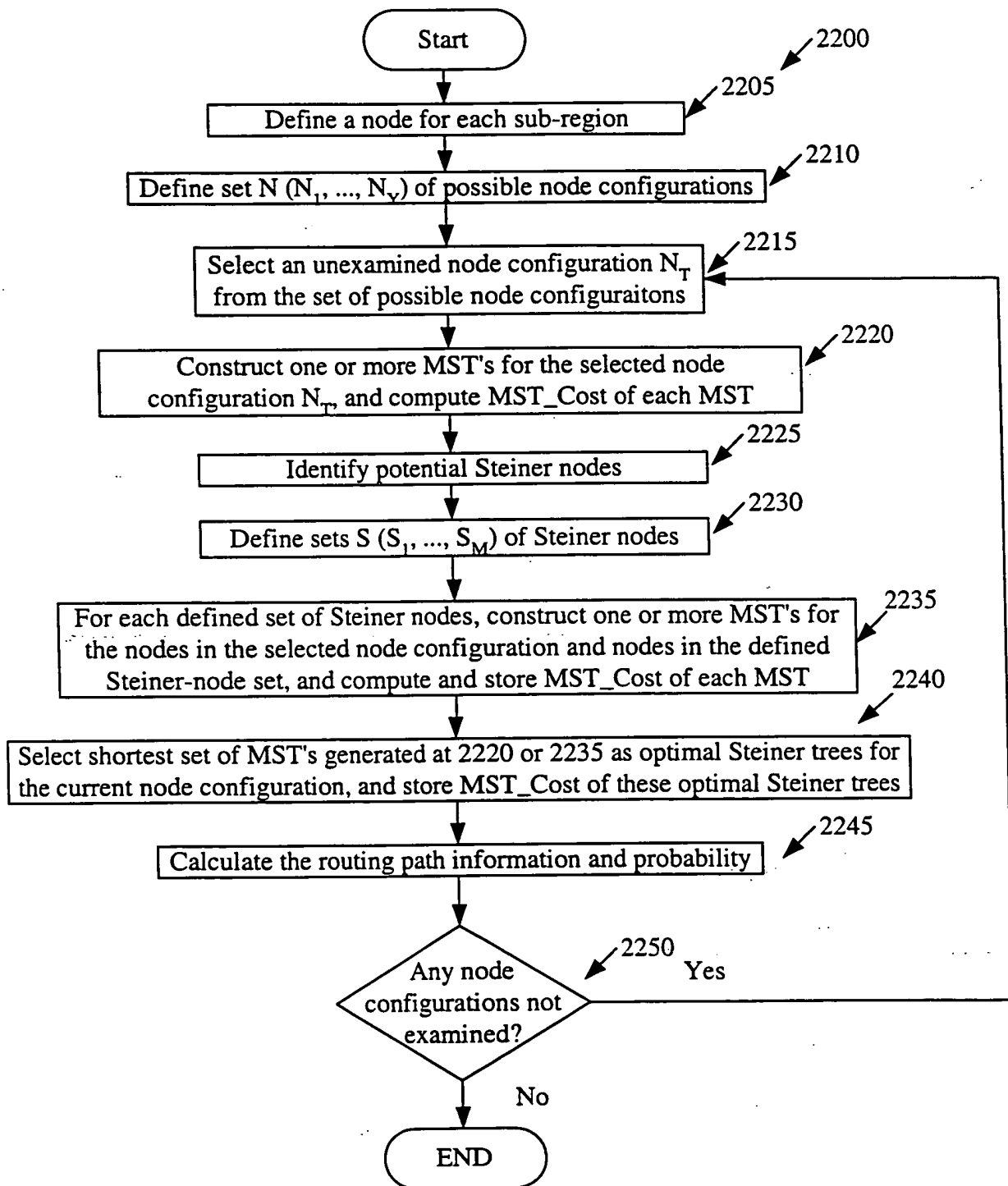


Figure 22

20250808400T

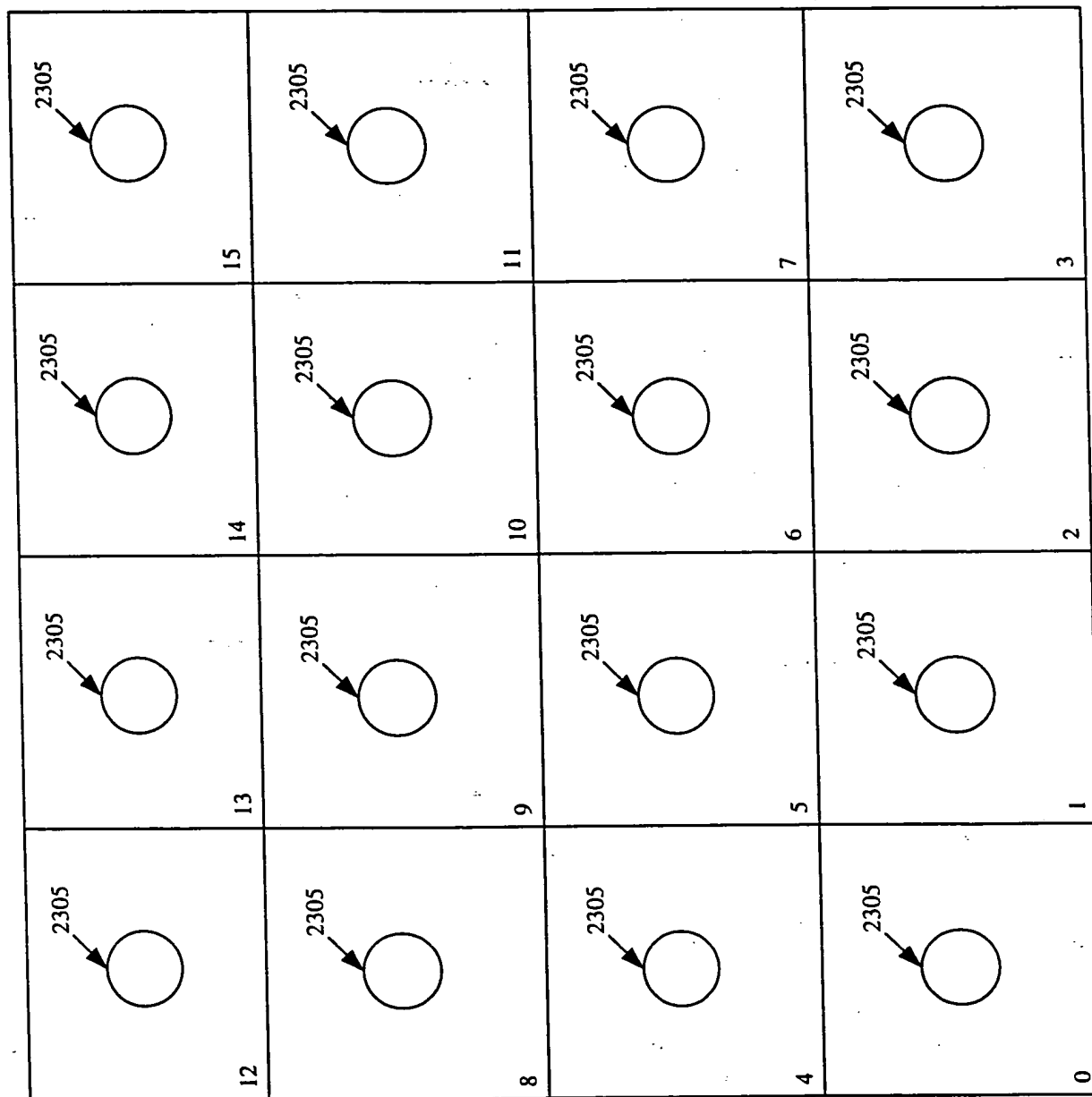


Figure 23

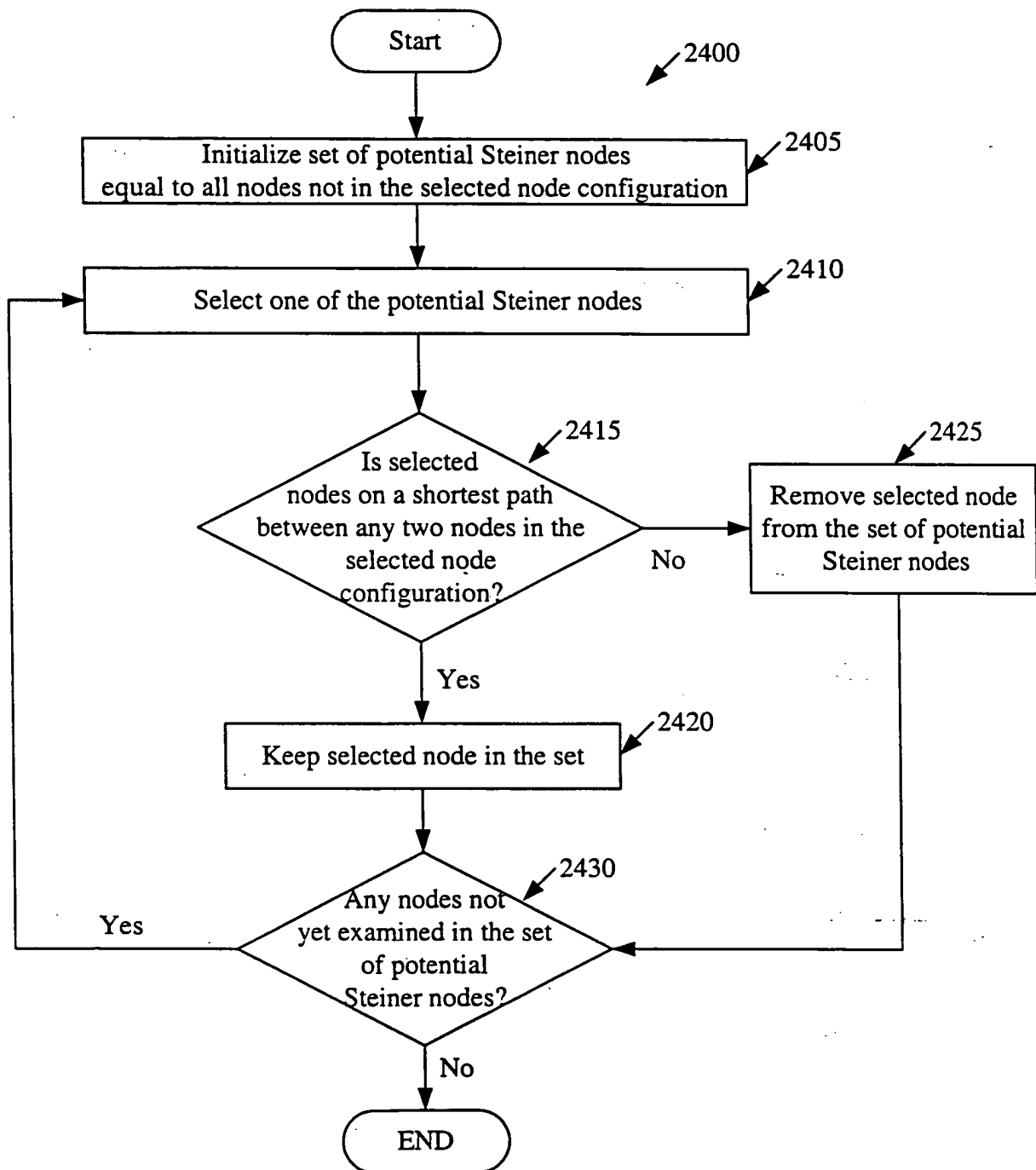


Figure 24

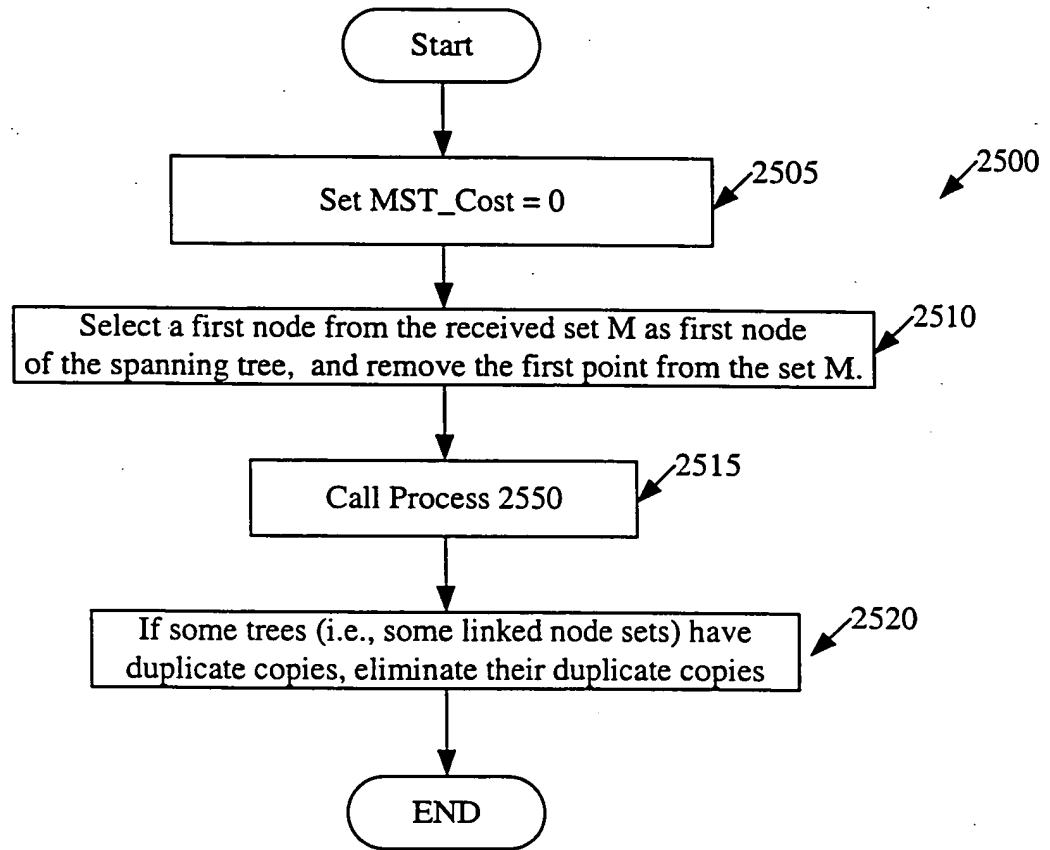


Figure 25A

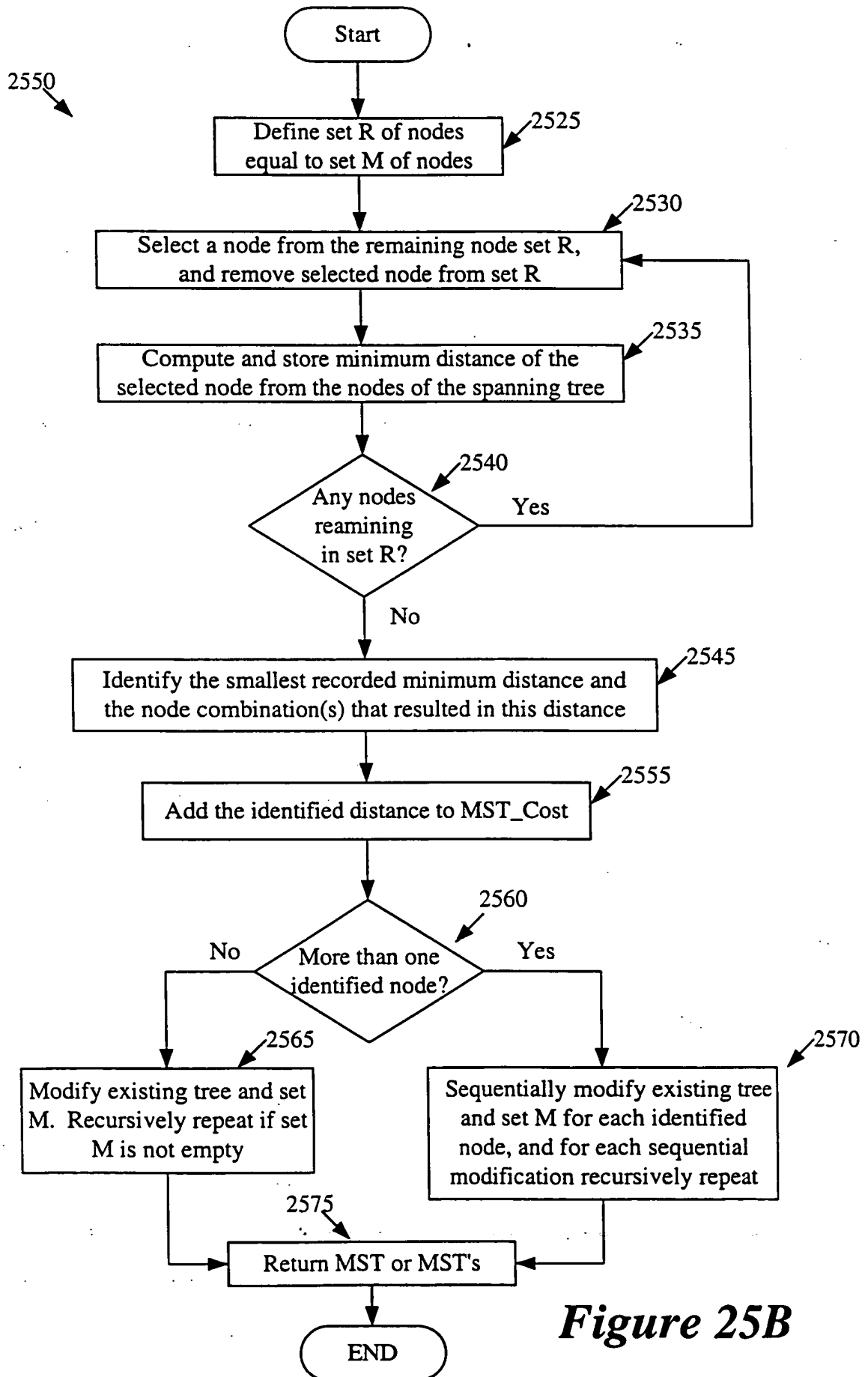


Figure 25B

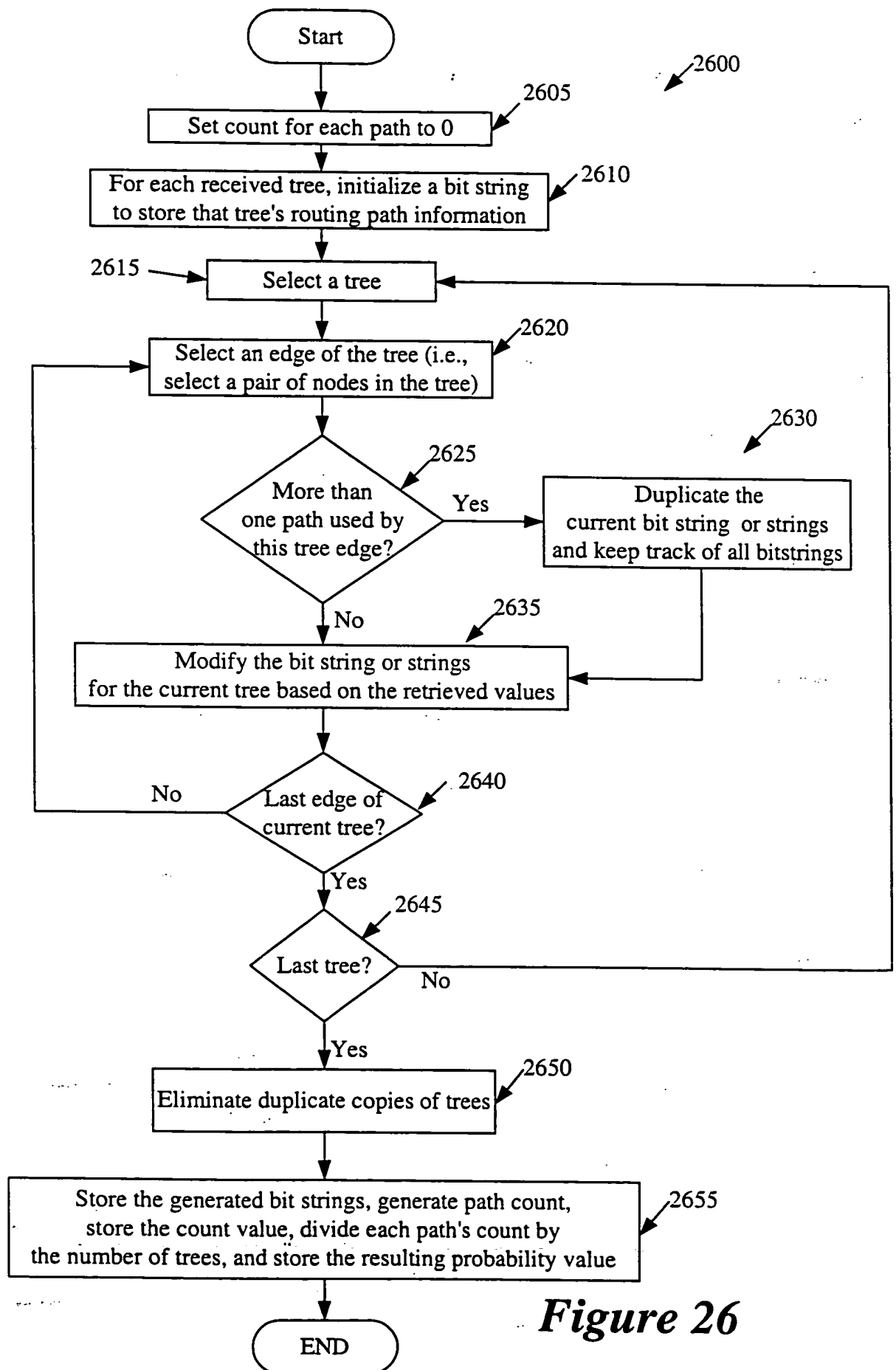


Figure 26

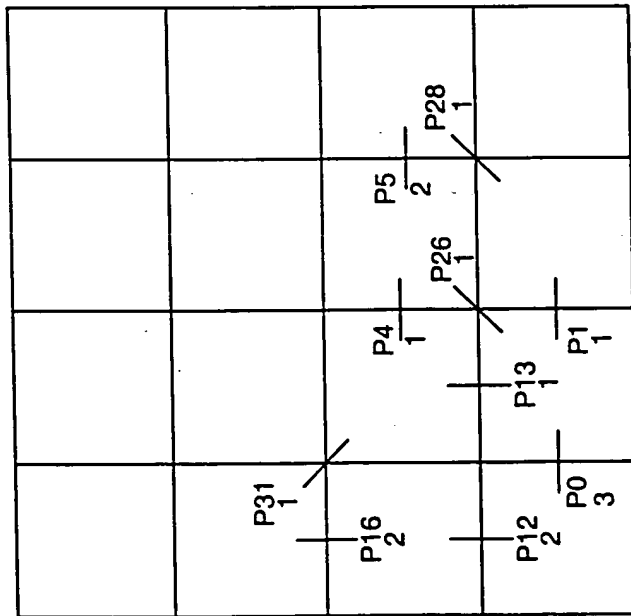


Figure 27

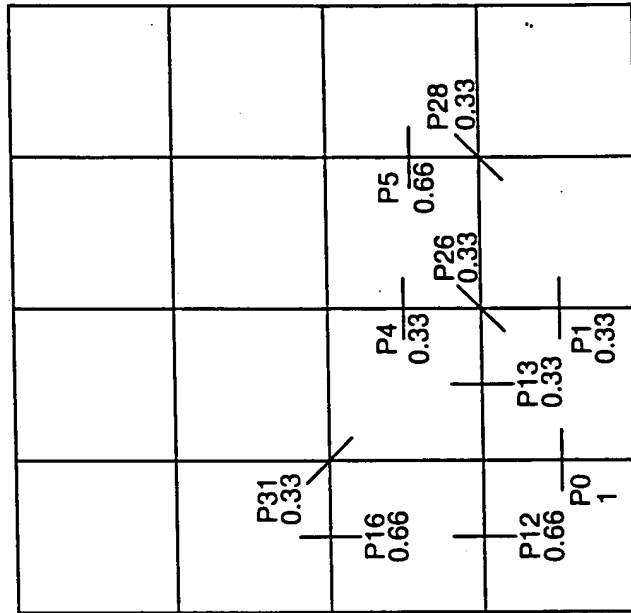


Figure 28

```

graph TD
    Start([Start]) --> 2200[Define a node for each sub-region]
    2200 --> 2205[Define set N (N1, ..., NV) of possible node configurations]
    2205 --> 2210[Group the node configurations into sets of symmetrically-related configurations]
    2210 --> 2905[Select a designated node configuration NT of a group that has not yet been examined]
    2905 --> 2220[Construct one or more MST's for the selected node configuration NT, and compute MST_Cost of each MST]
    2220 --> 2225[Identify potential Steiner nodes]
    2225 --> 2230[Define sets S (S1, ..., SM) of Steiner nodes]
    2230 --> 2235[For each defined set of Steiner nodes, construct one or more MST's for nodes in the selected node configuration and nodes in the defined Steiner-node set, and compute and store MST_Cost of each MST]
    2235 --> 2240[Select shortest set of MST's generated at 2220 or 2235 as optimal Steiner trees for the current node configuration, and store MST_Cost of these optimal Steiner trees]
    2240 --> 2245[Calculate the routing path information and probability]
    2245 --> 2910[Check whether the Steiner tree(s) were previously stored; if not, store and link the Steiner tree(s); if so, link to stored Steiner tree(s)]
    2910 --> 2250{Any node configurations not examined?}
    2250 -- Yes --> 2905
    2250 -- No --> END([END])
  
```

Figure 29

END

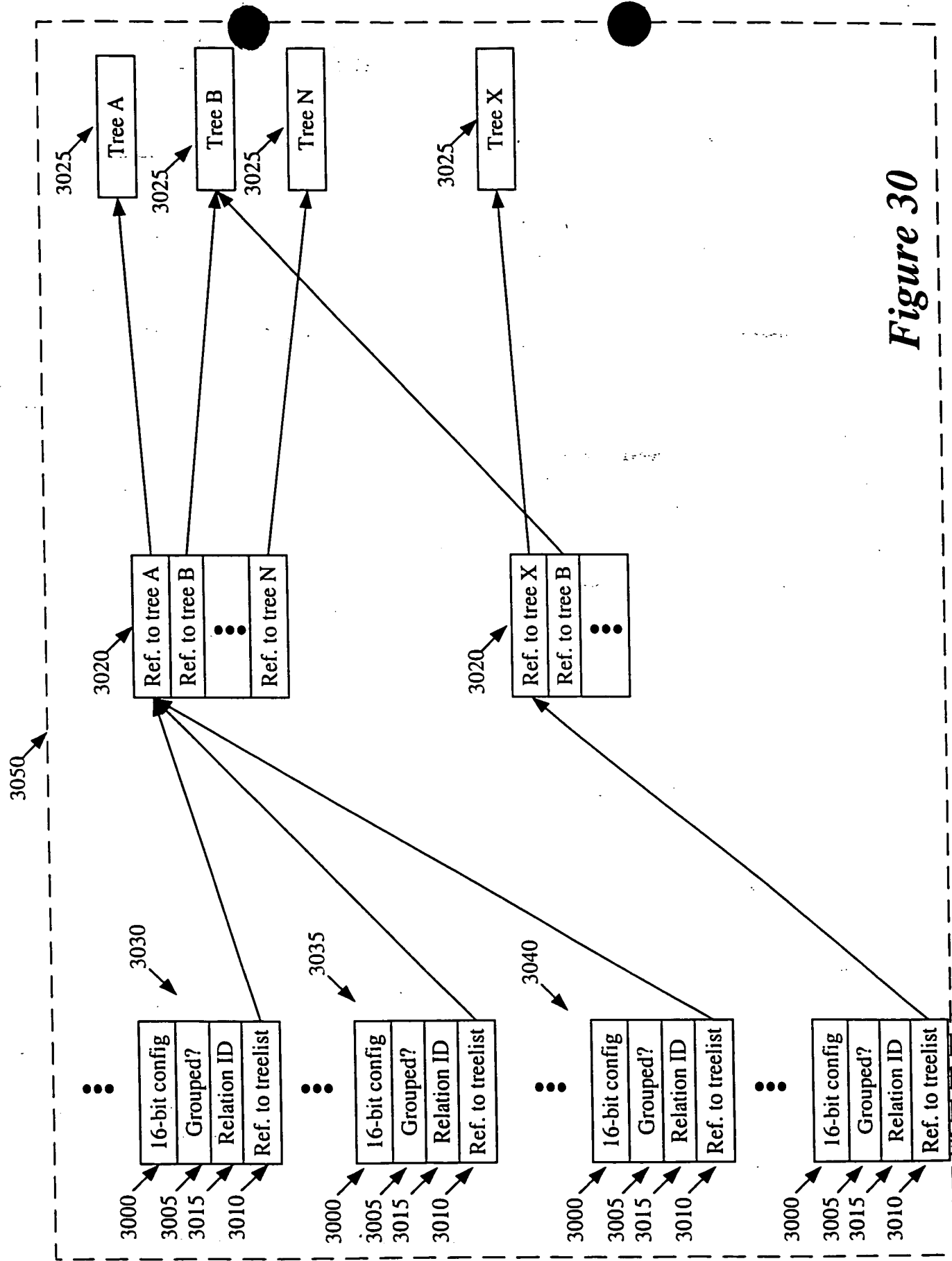


Figure 30

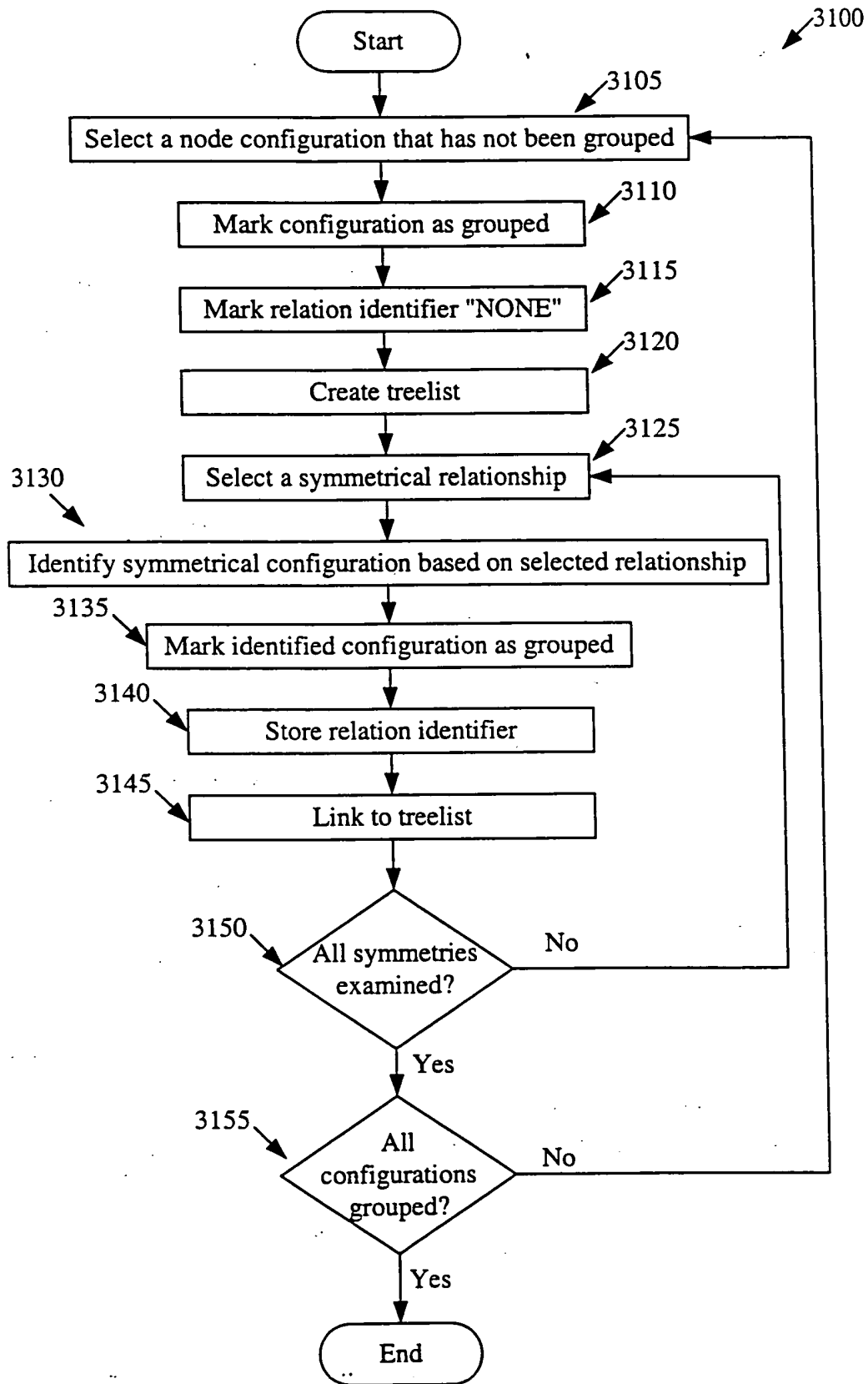


Figure 31

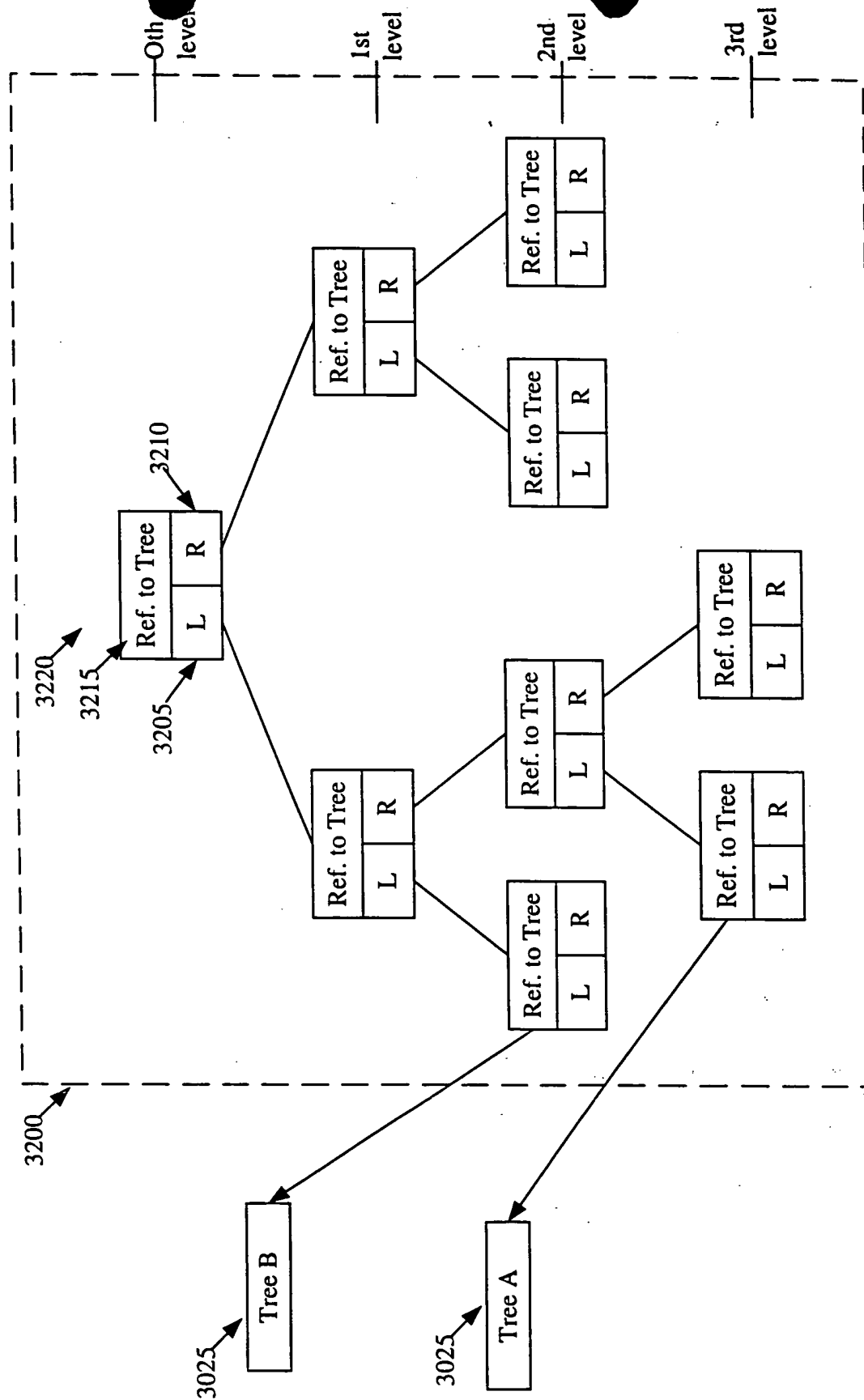


Figure 32

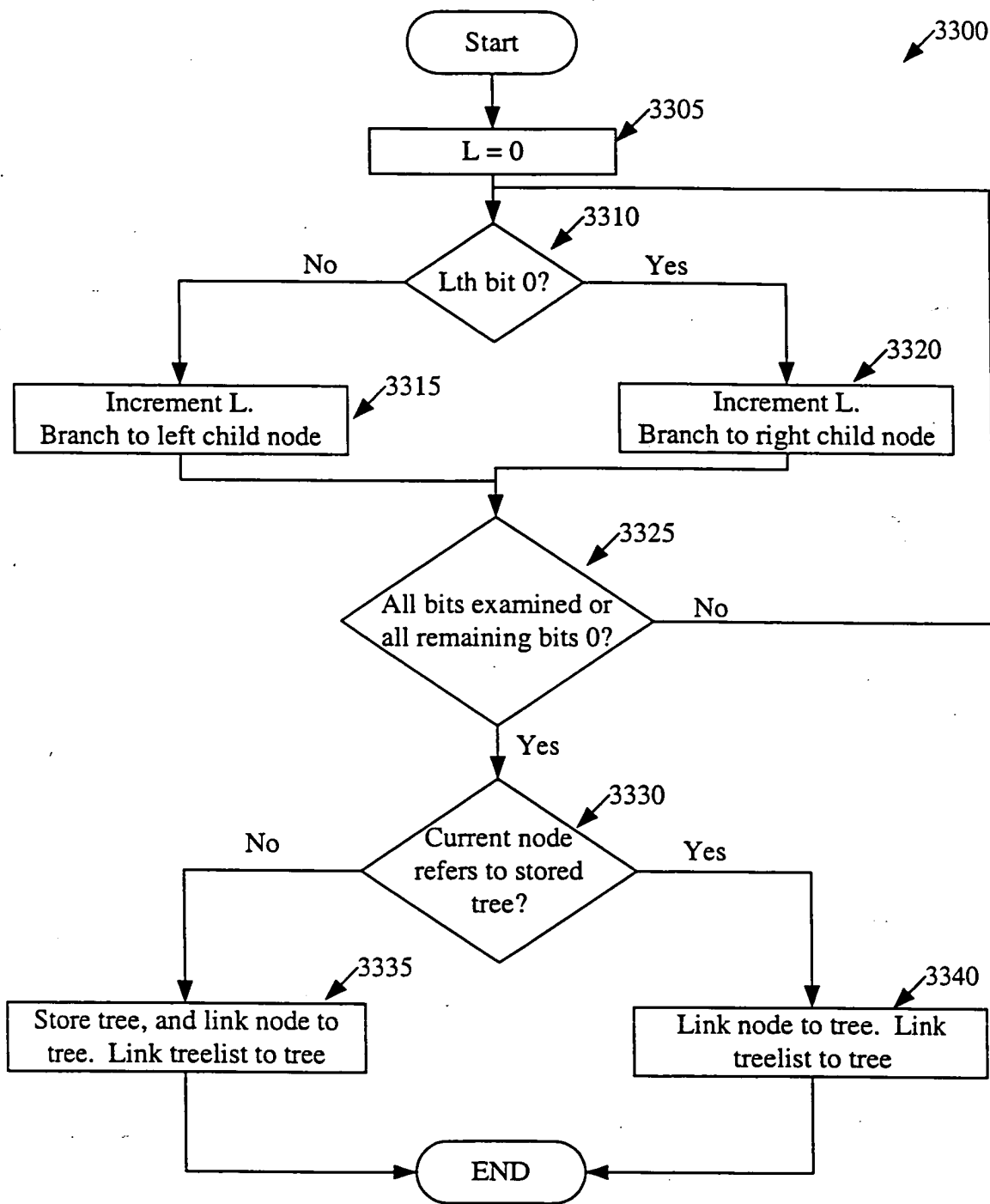


Figure 33

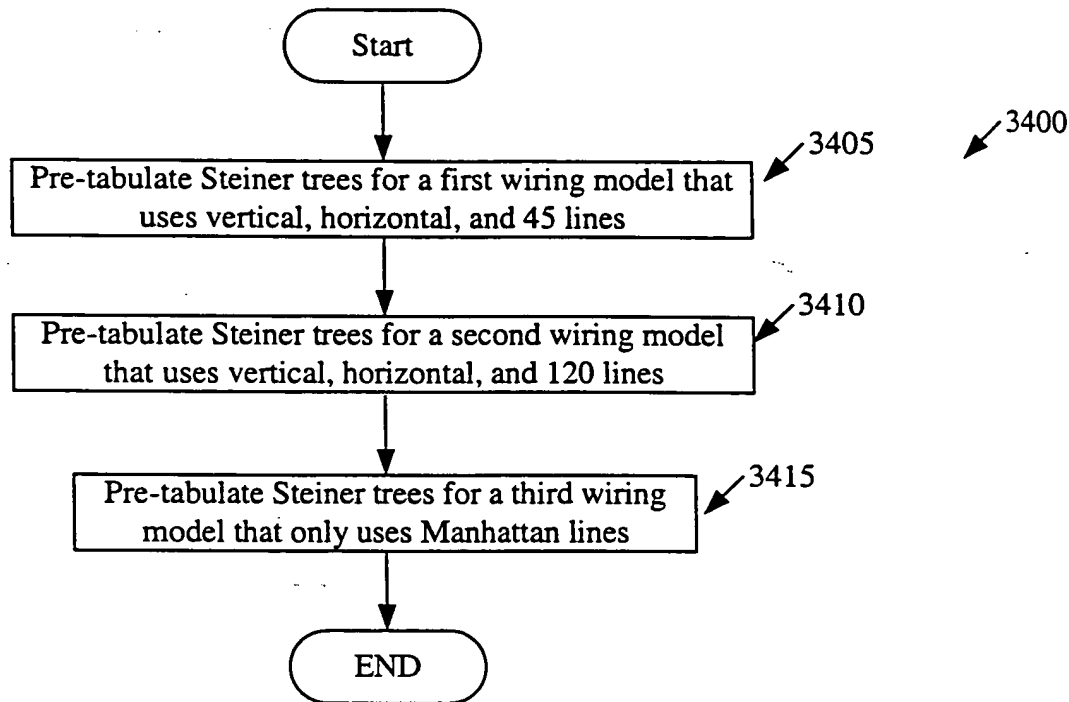


Figure 34

REF ID: A008400

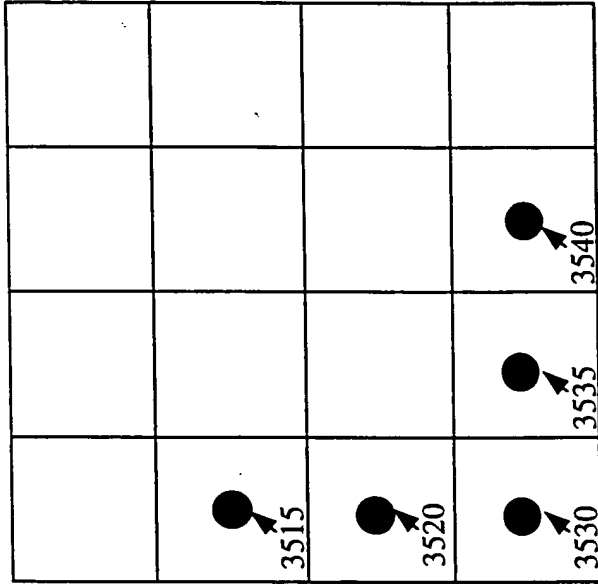


Figure 35A

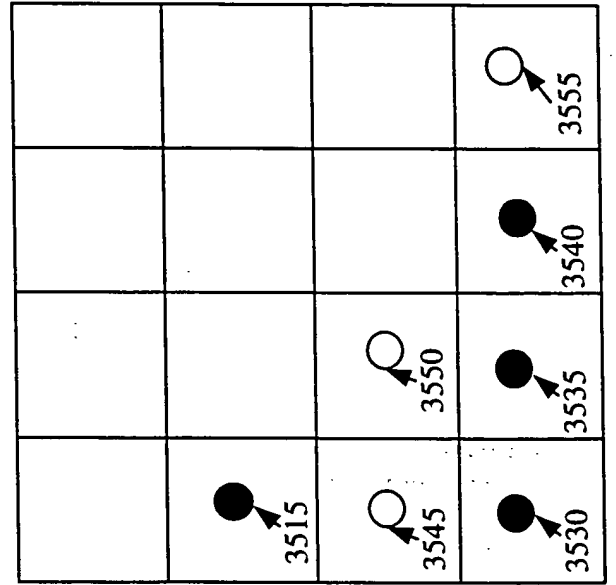


Figure 35B

SECRET

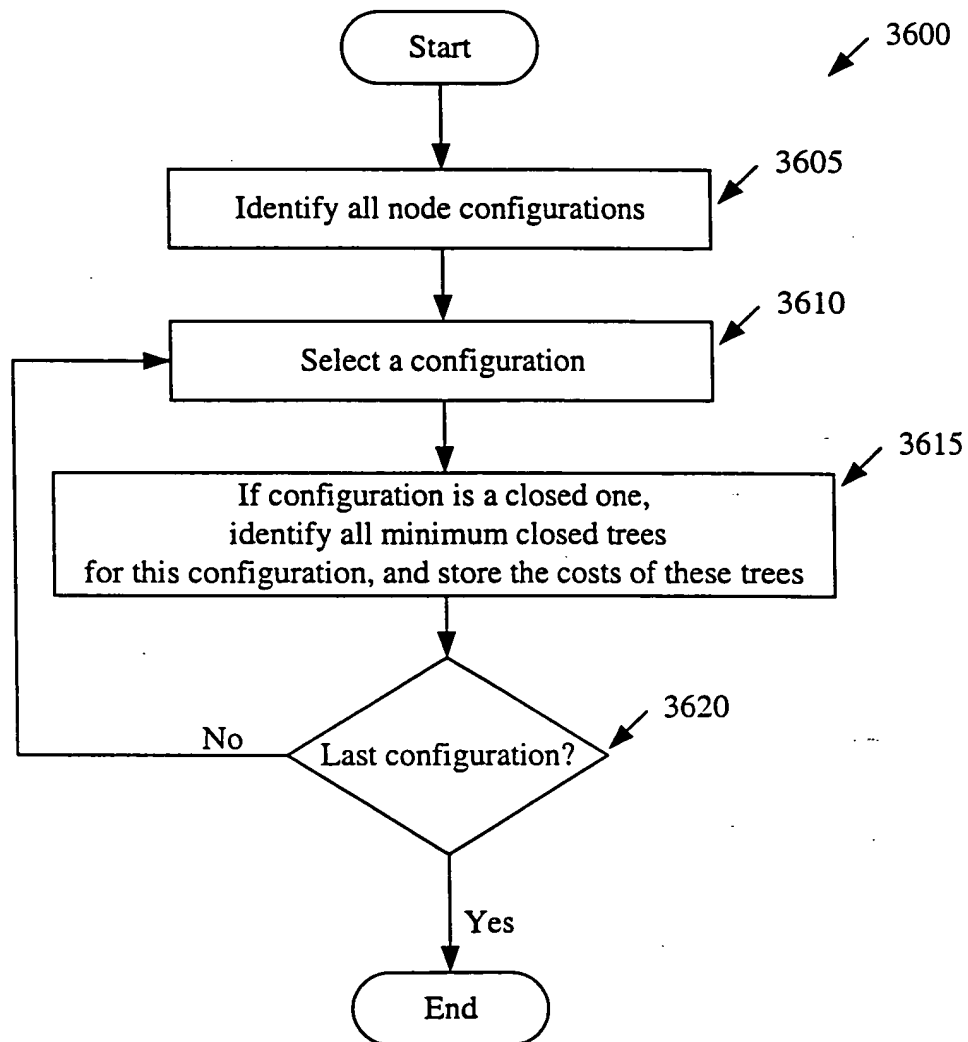


Figure 36

20250000.011300

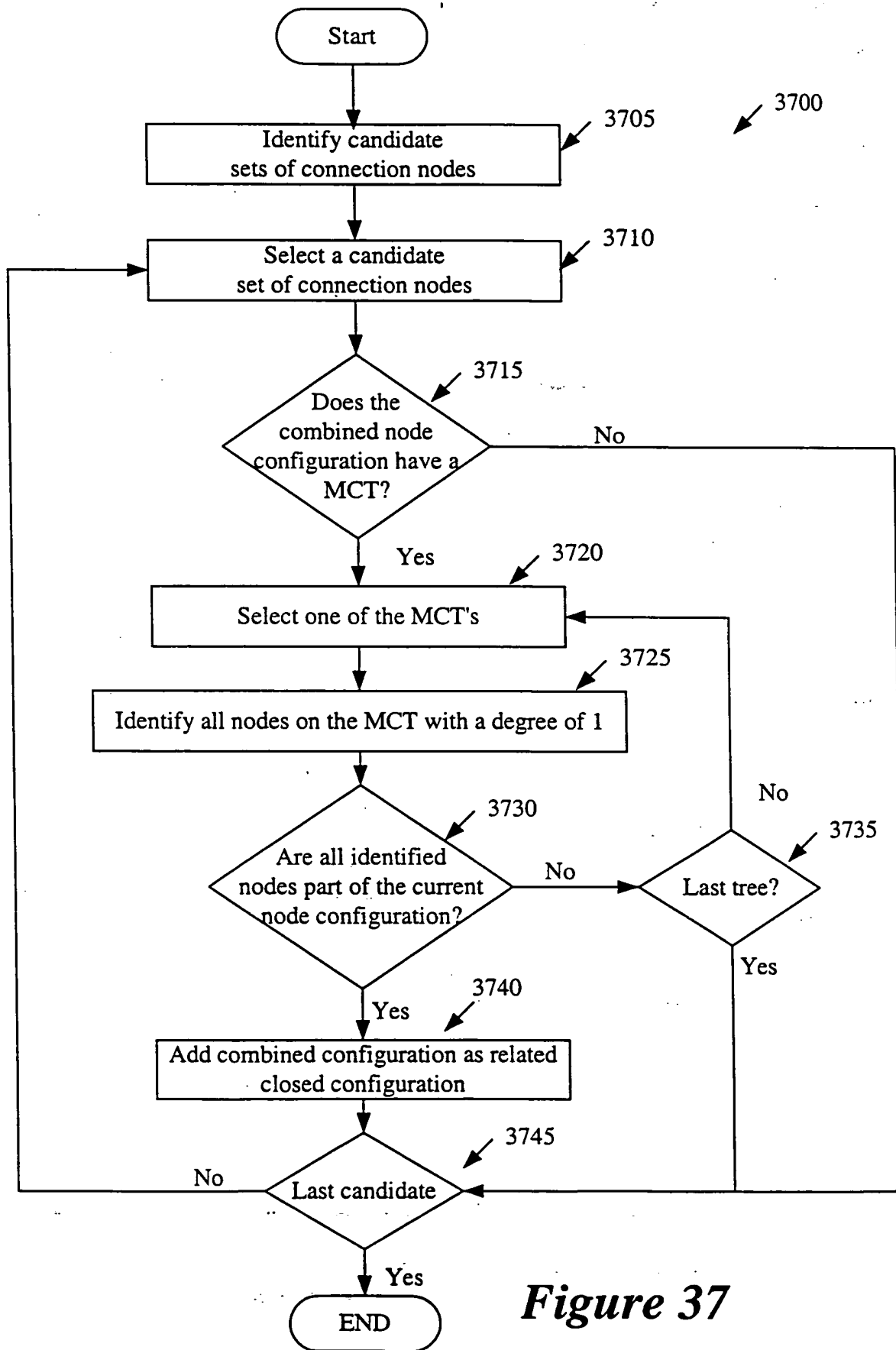


Figure 37

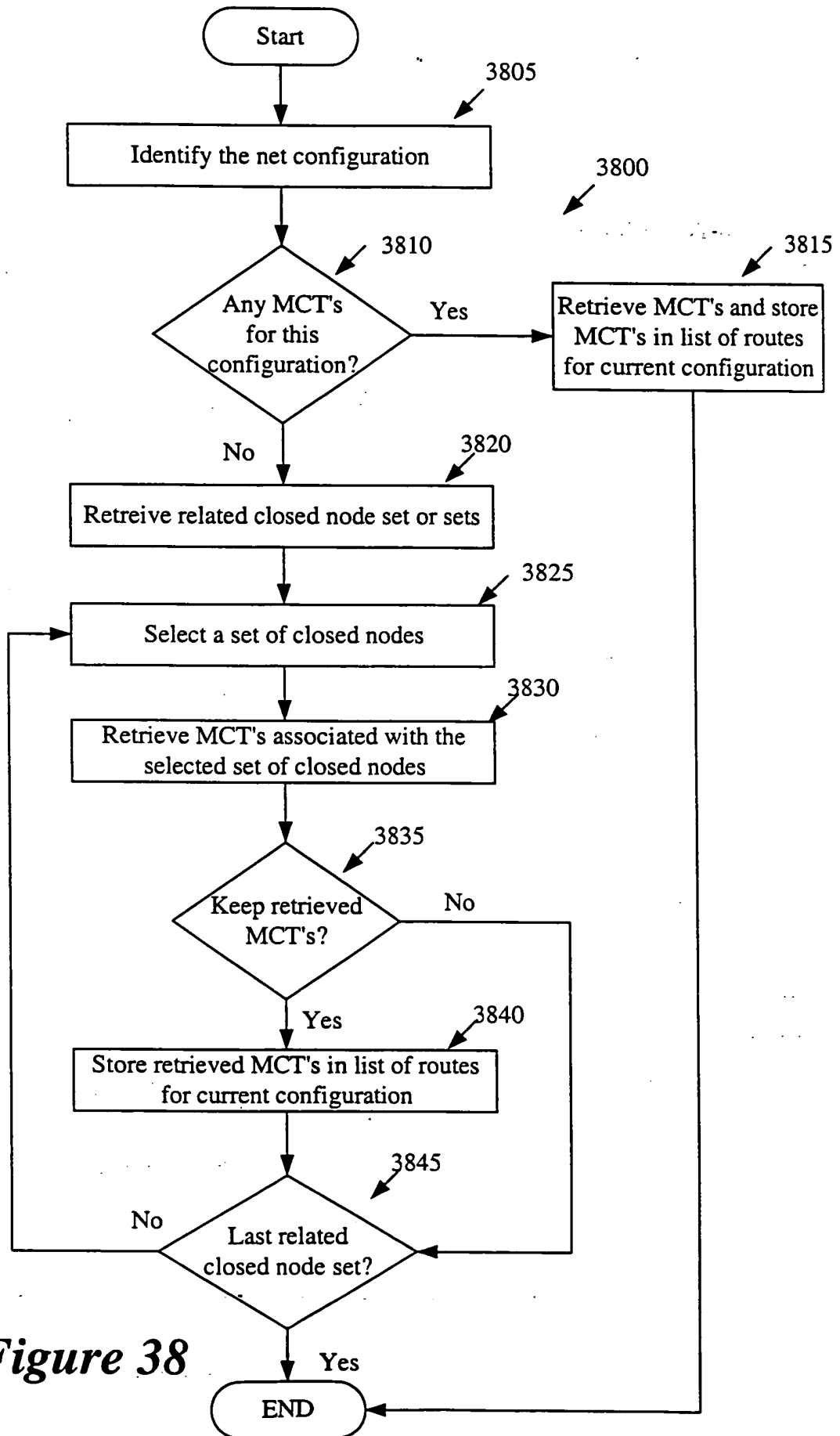


Figure 38

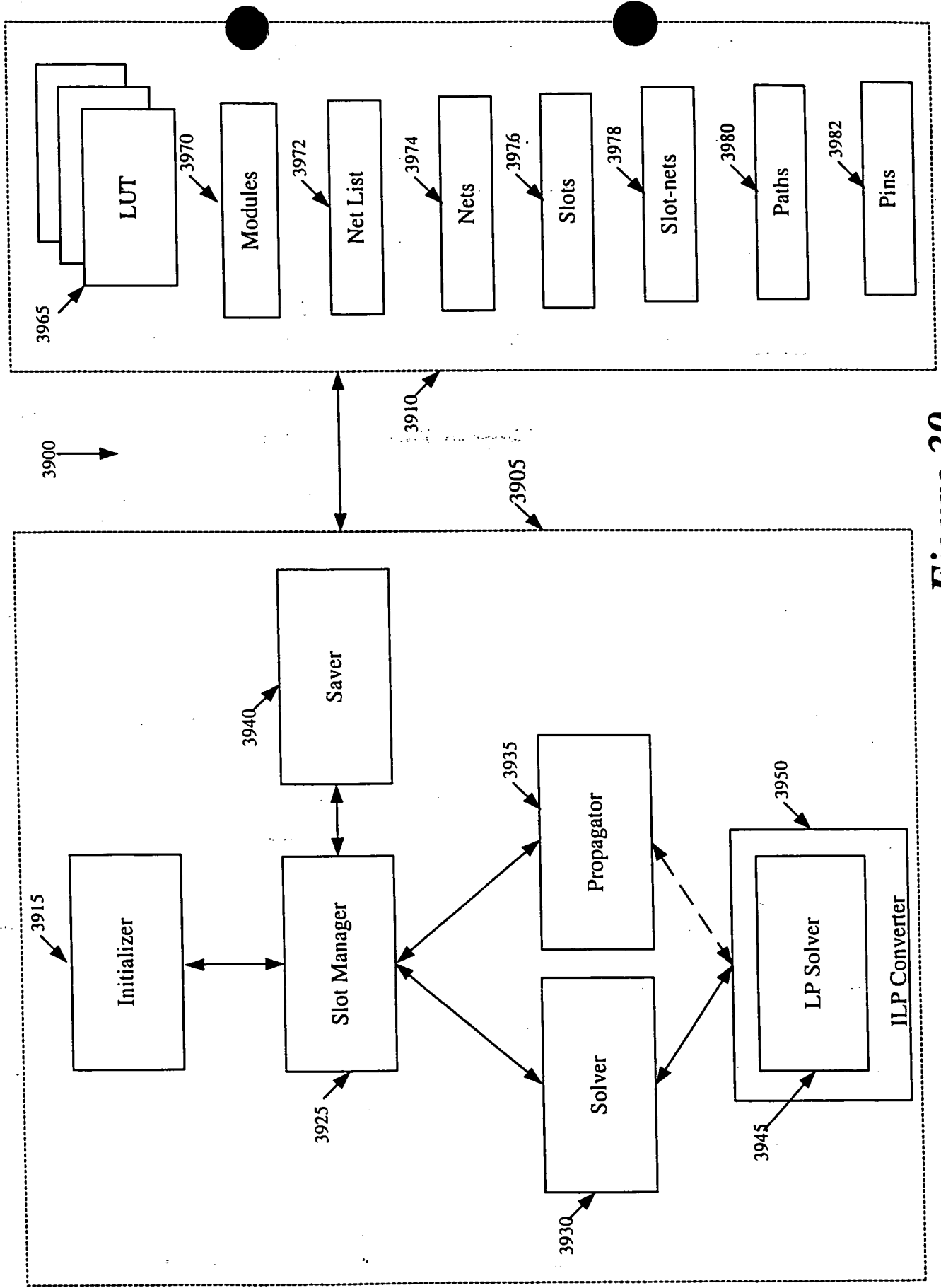


Figure 39

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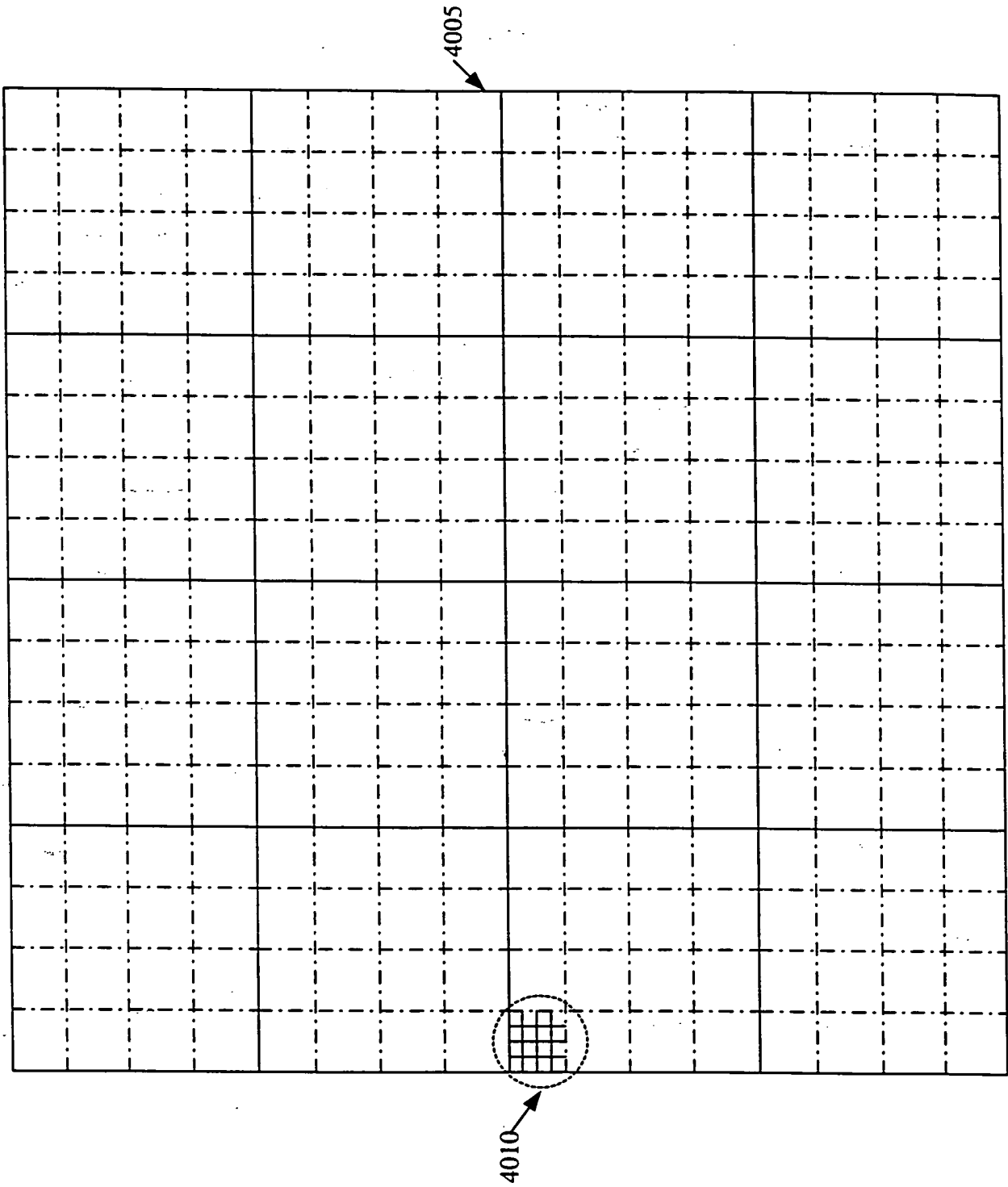


Figure 40

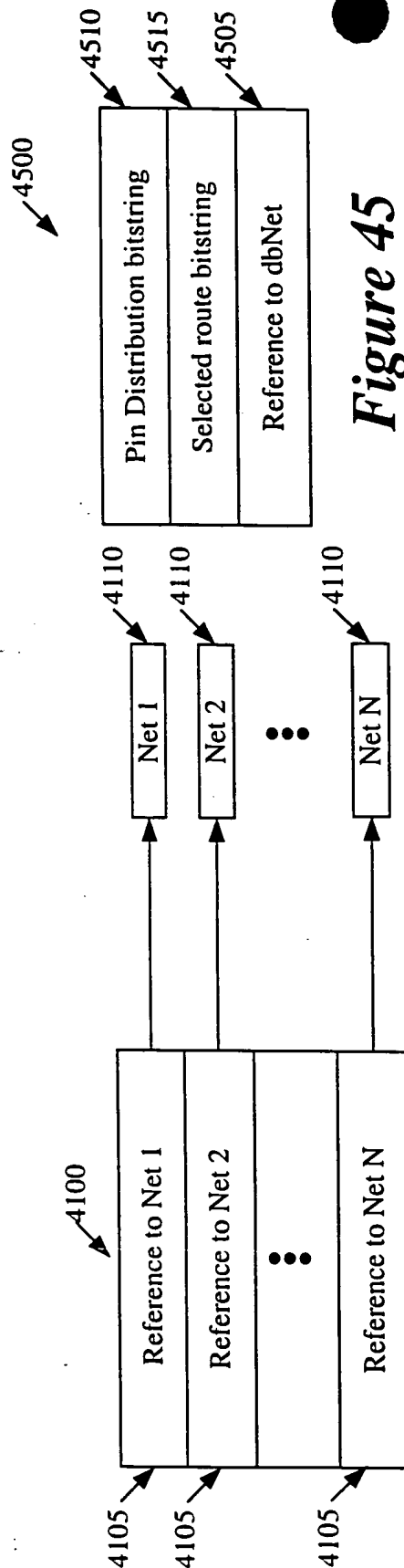


Figure 45

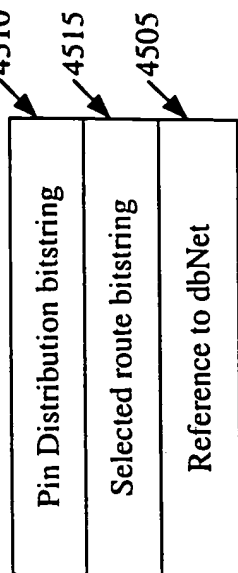


Figure 41

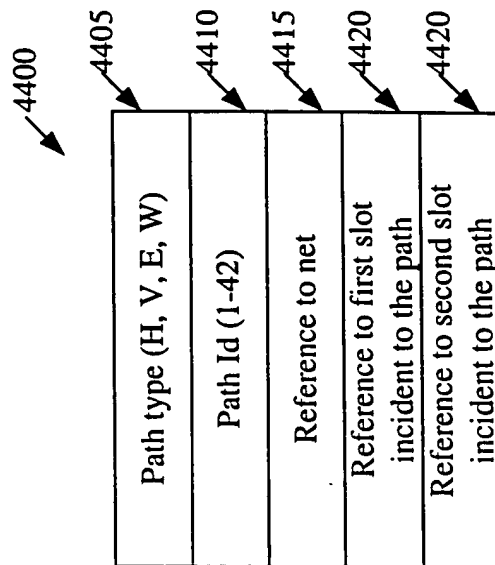
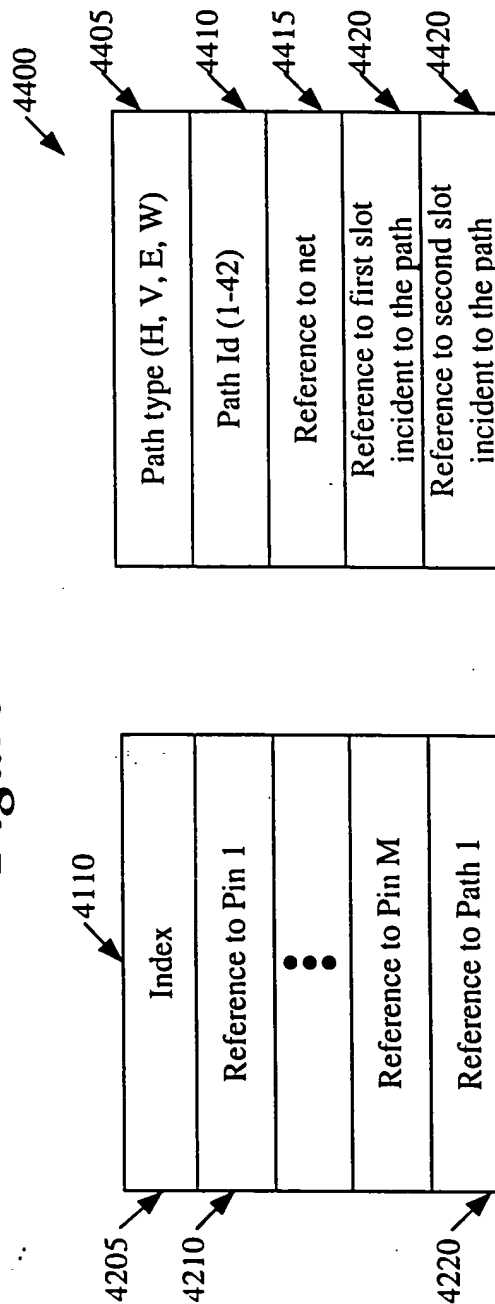


Figure 44

Figure 80

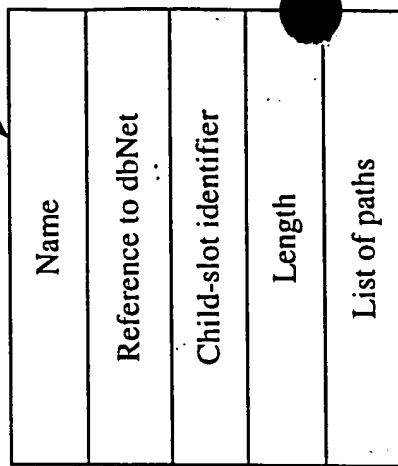


Figure 42

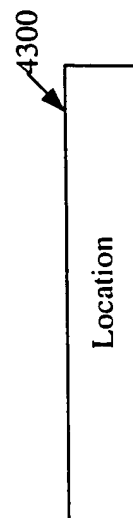
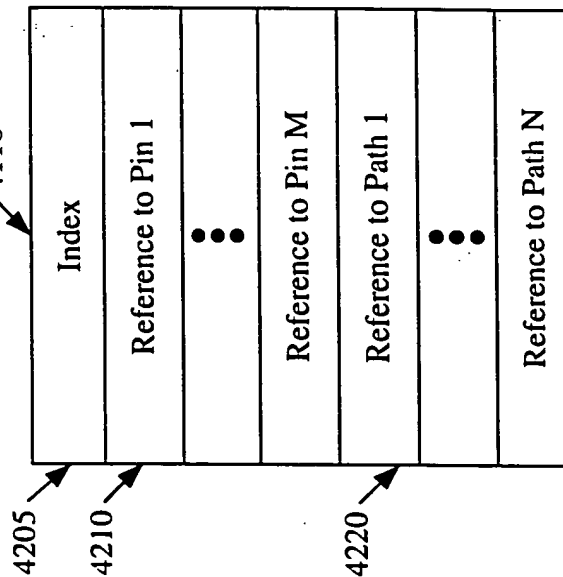


Figure 43

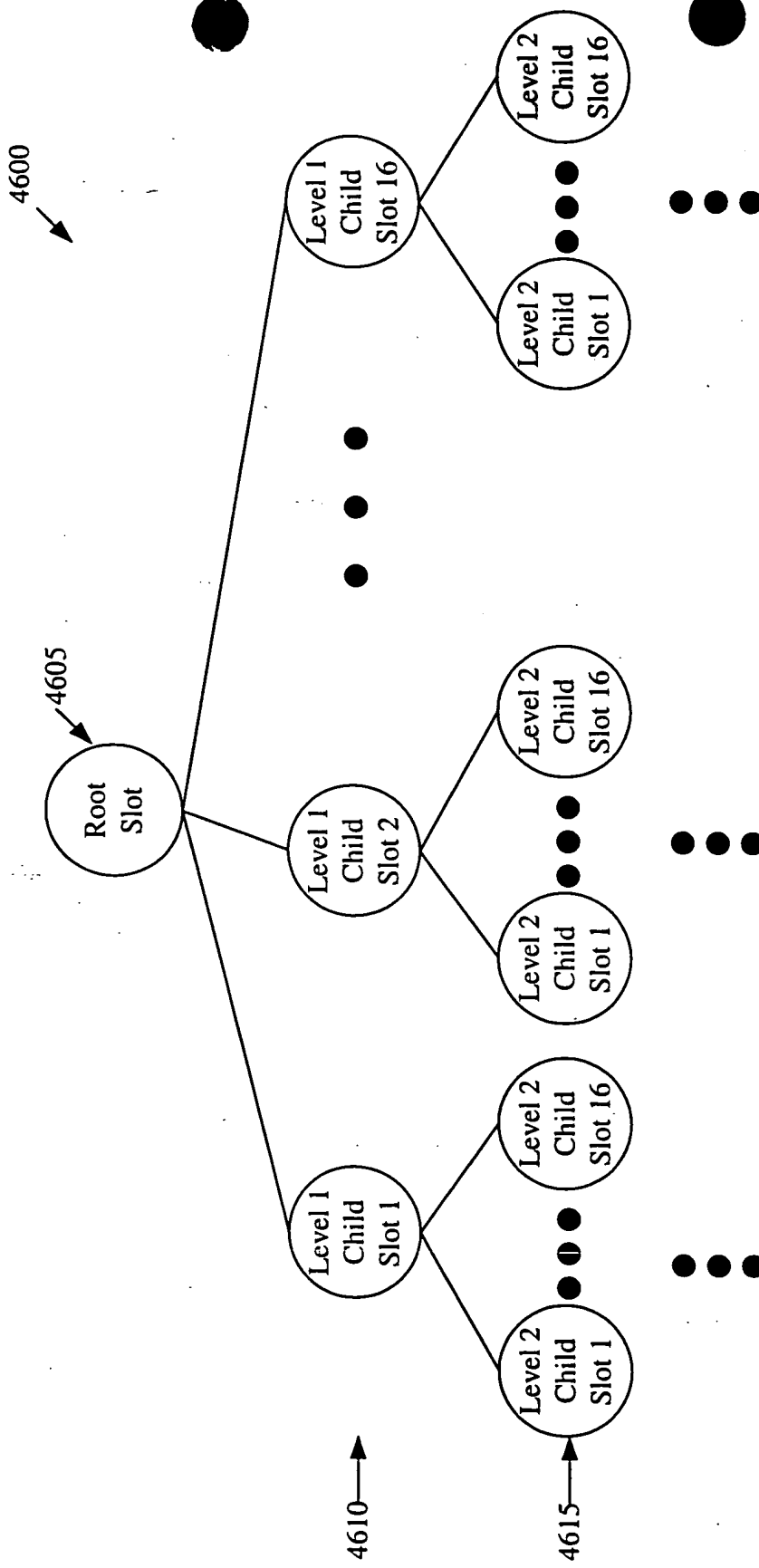


Figure 46

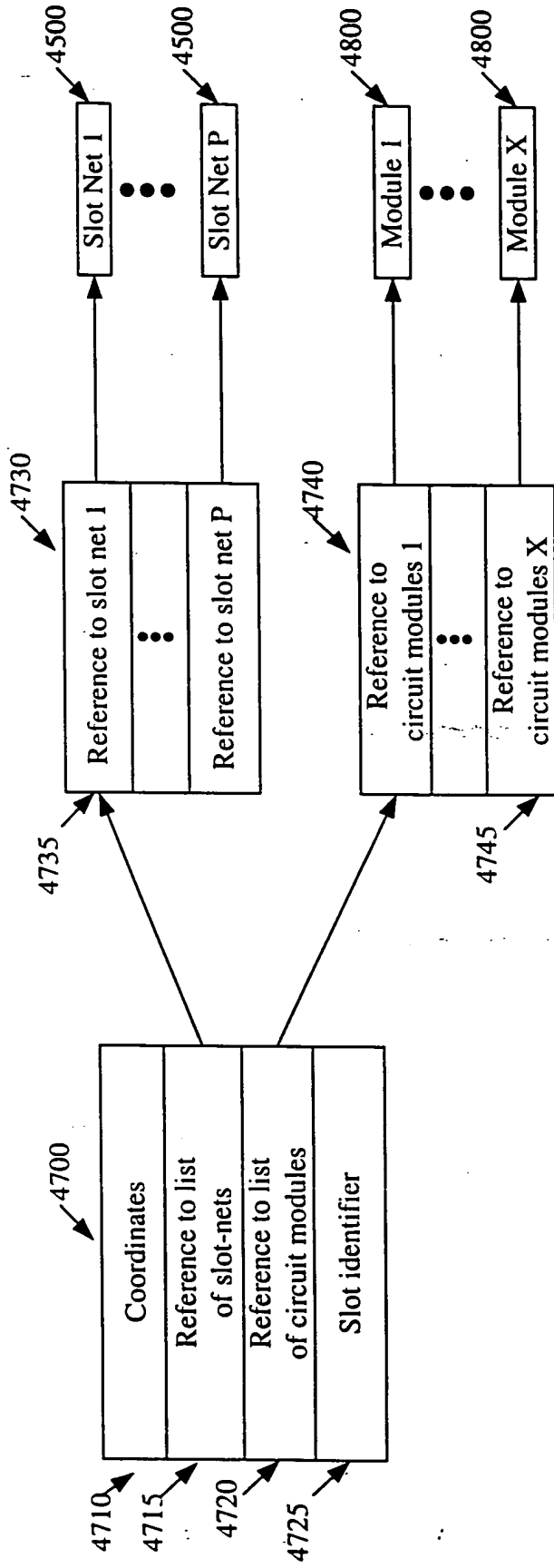


Figure 47

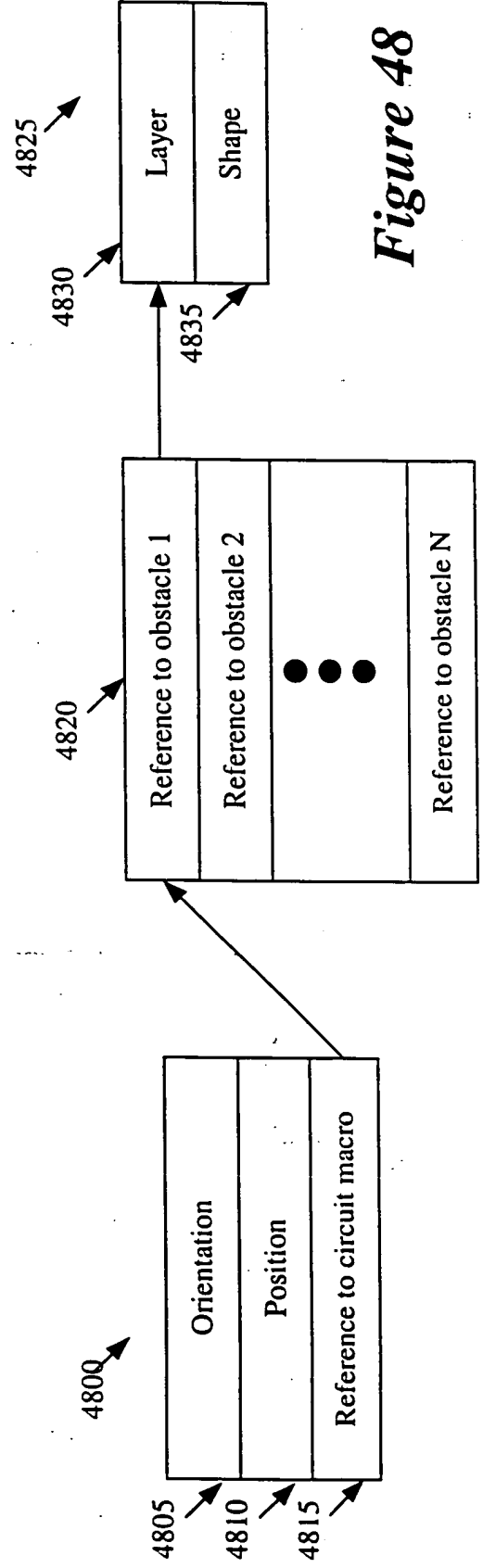


Figure 48

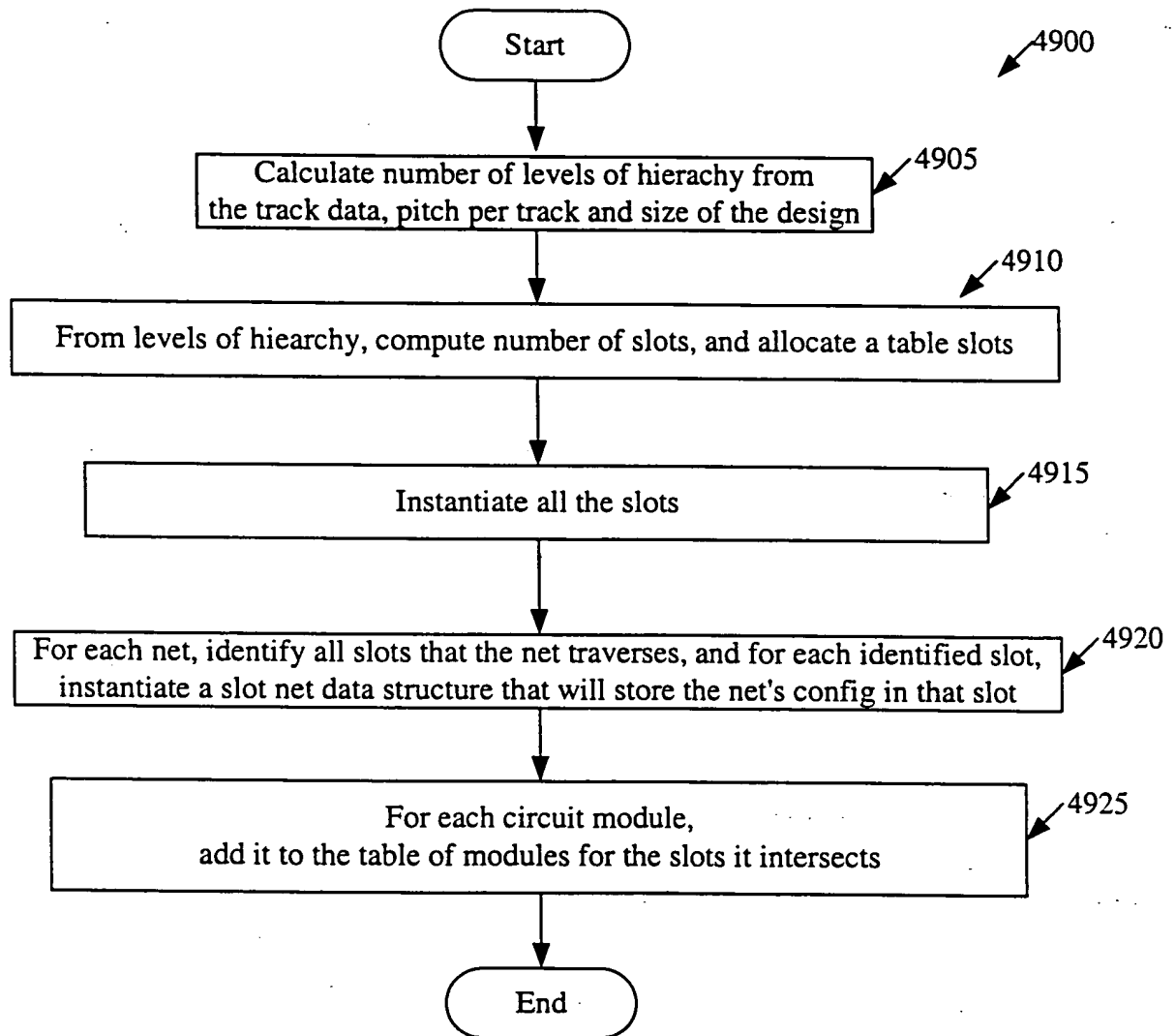


Figure 49

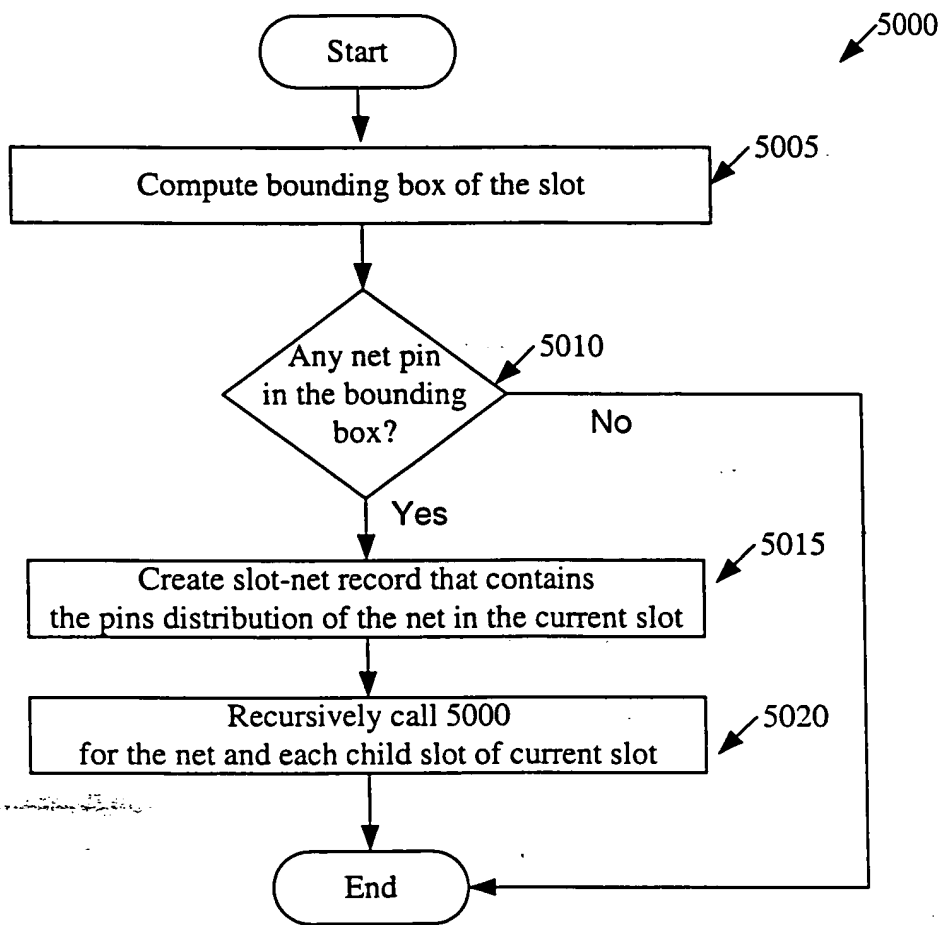


Figure 50

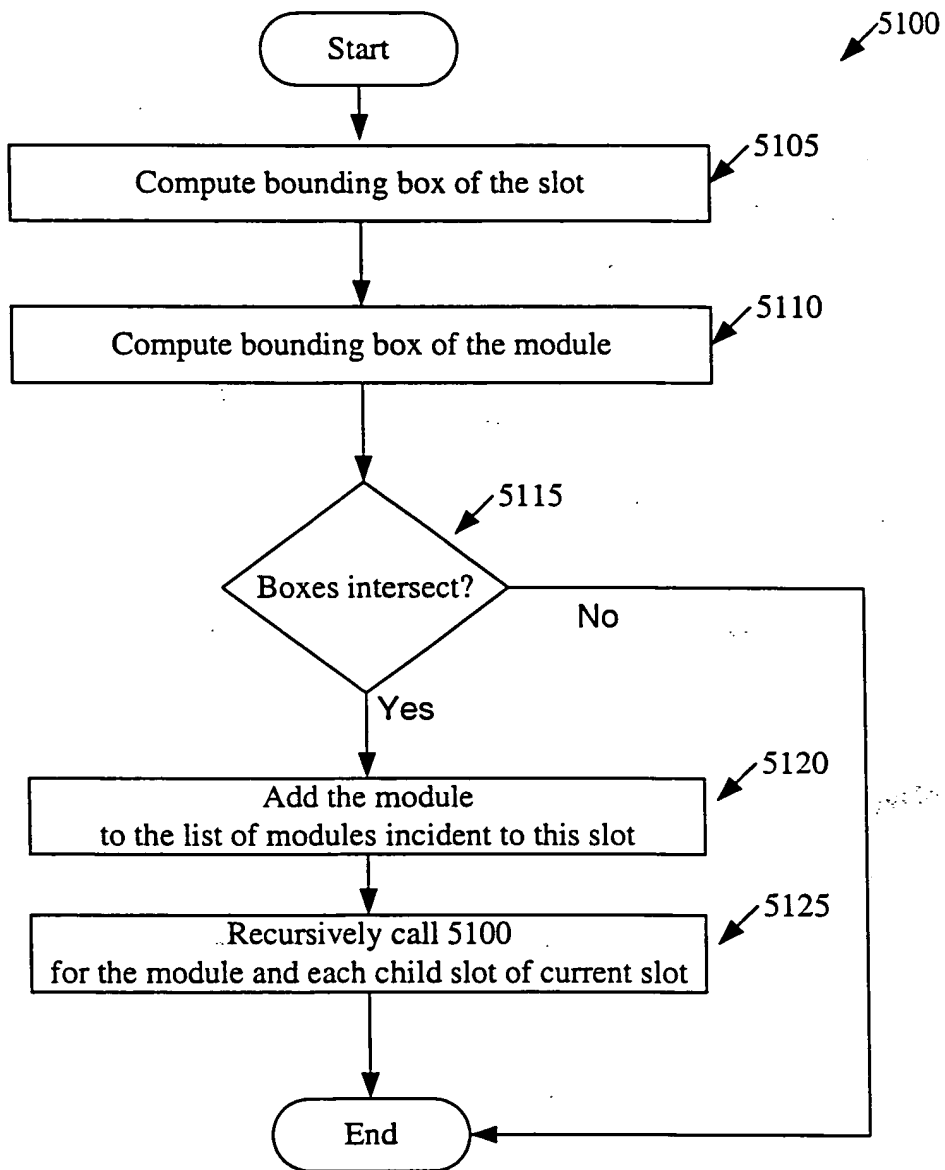


Figure 51

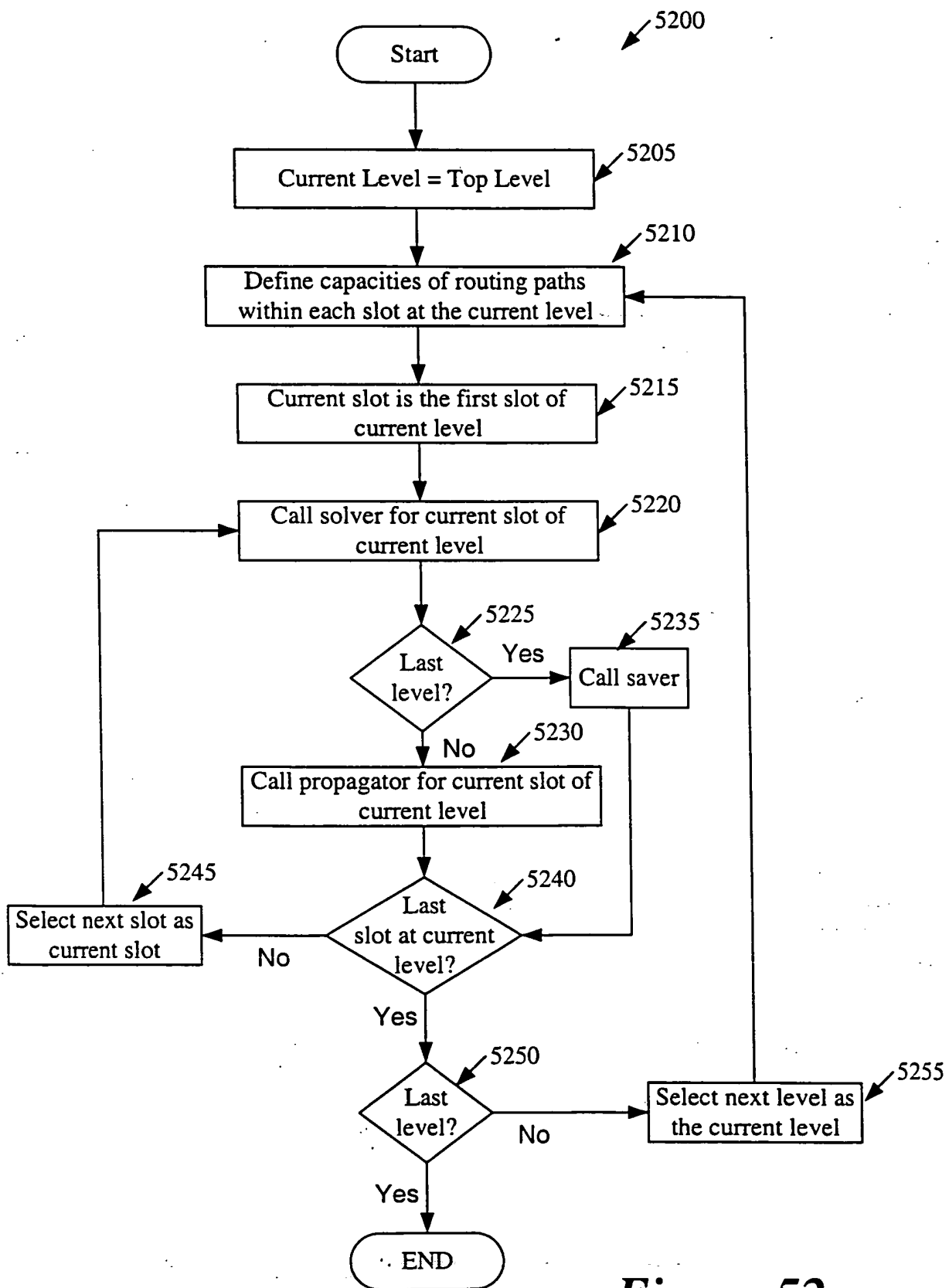


Figure 52


```
graph TD; Start([Start]) --> 5305[Predict congestion of resources for each path in the routing grid]; 5305 --> 5310[Identify routes for each net in the current slot]; 5310 --> 5315[Assign wirelength cost to each identified tree by factoring propagation]; 5315 --> 5320[Formulate LP problem]; 5320 --> 5325[Solve LP problem]; 5325 --> 5330[Convert LP solutions to ILP solutions]; 5330 --> 5335[Save results in the slot-net data structures]; 5335 --> END([END]);
```

5300

Start

5305 Predict congestion of resources for each path in the routing grid

5310 Identify routes for each net in the current slot

5315 Assign wirelength cost to each identified tree by factoring propagation

5320 Formulate LP problem

5325 Solve LP problem

5330 Convert LP solutions to ILP solutions

5335 Save results in the slot-net data structures

END

Figure 53

2025-08-08 10:00:00

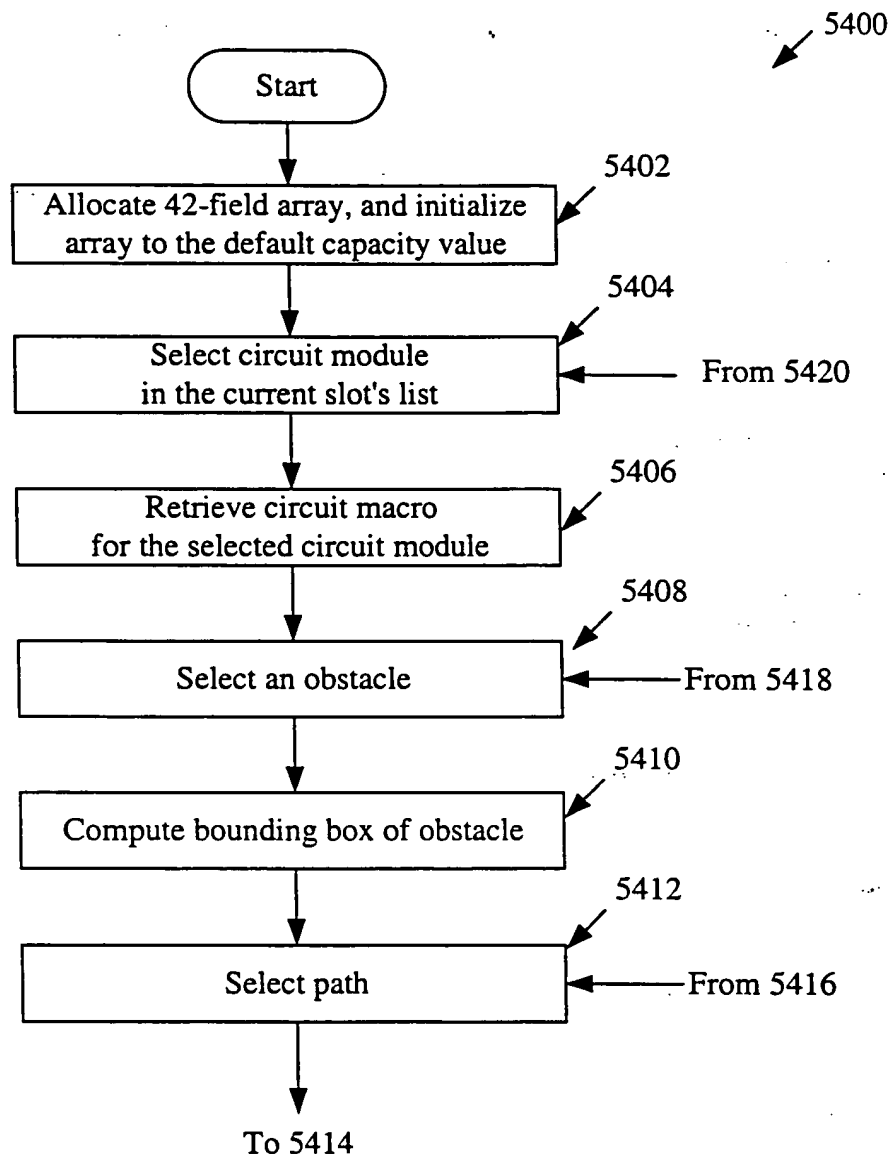


Figure 54A

Figure 54: Figure 54A
Figure 54B

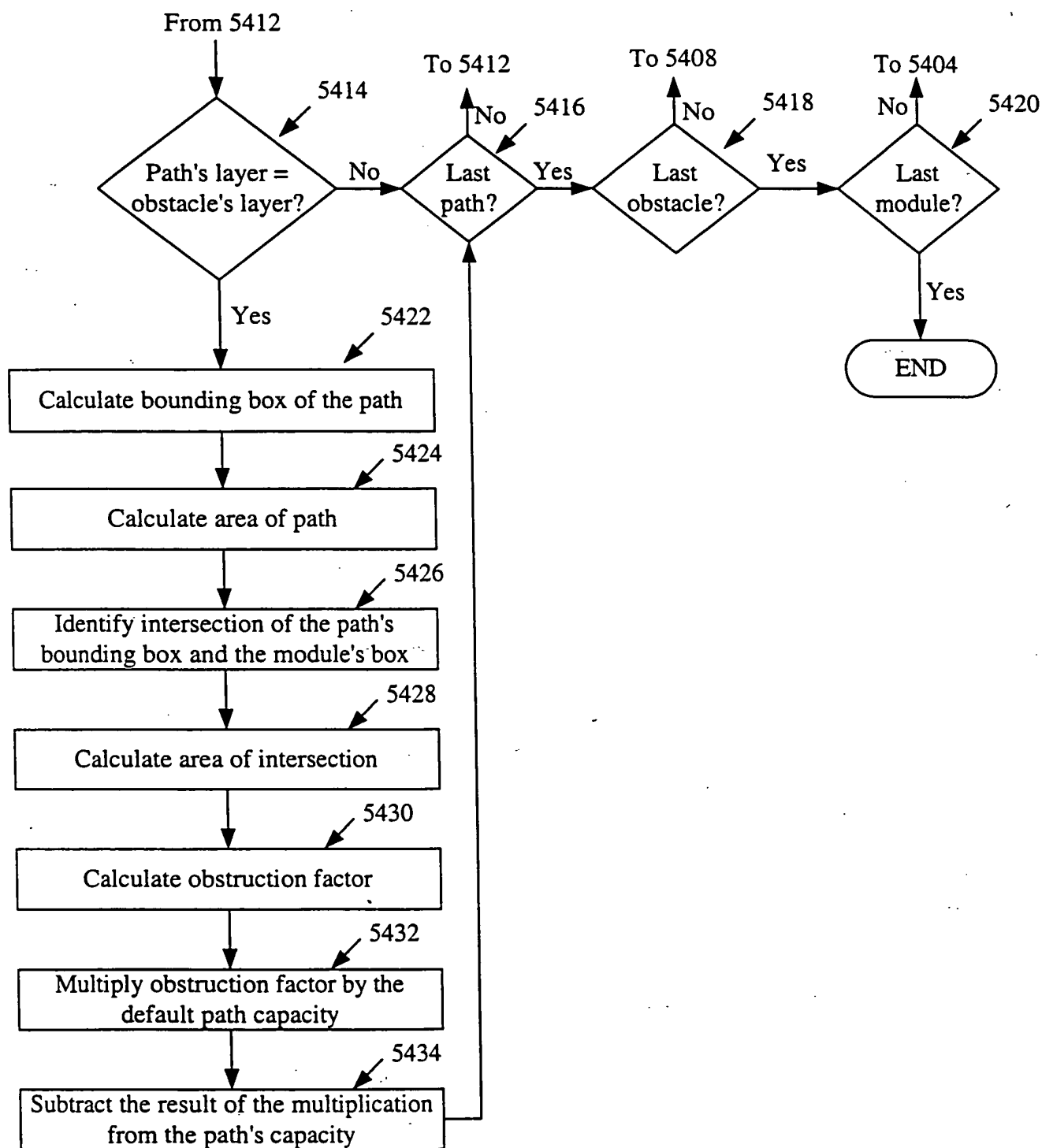


Figure 54B

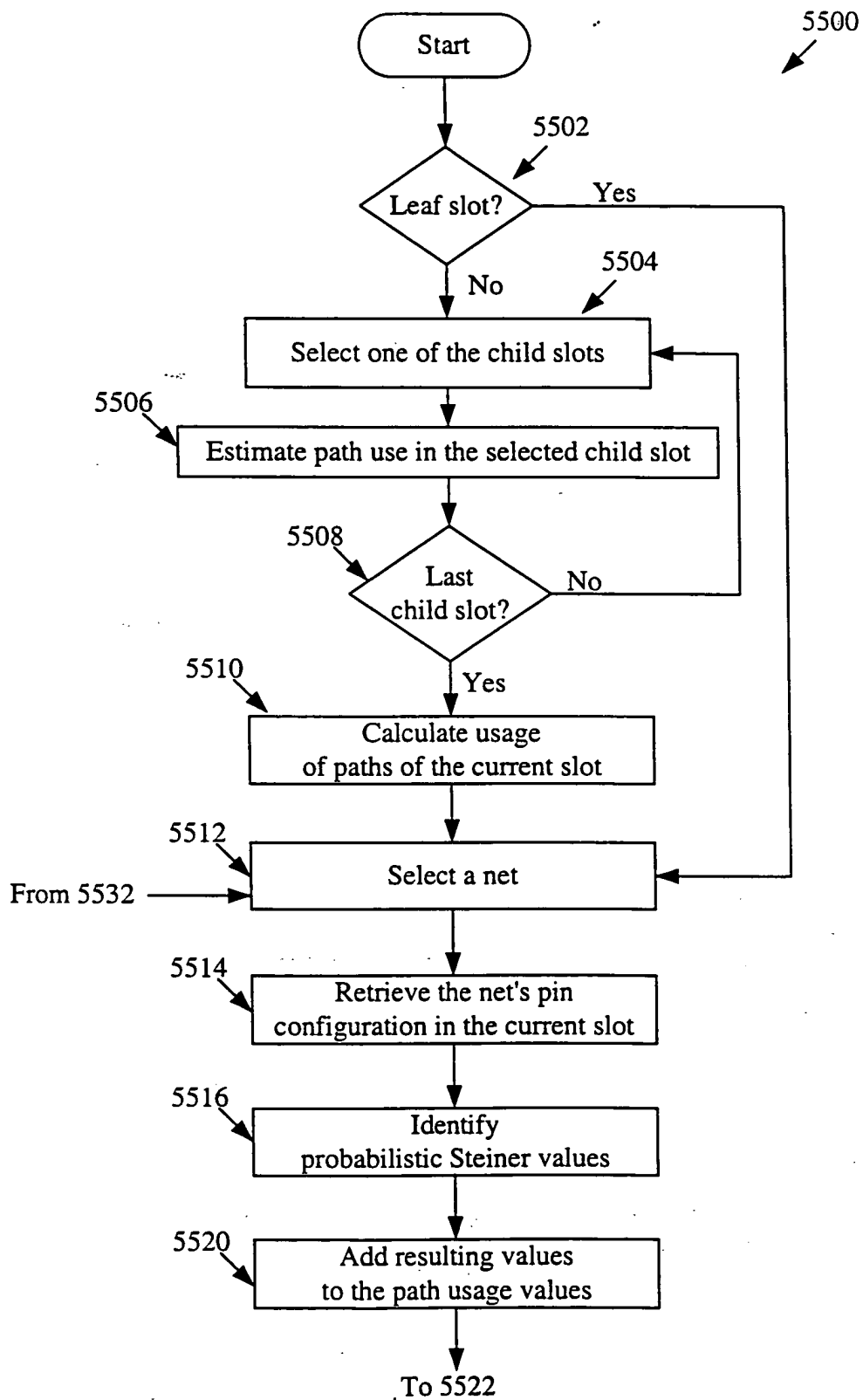


Figure 55A

Figure 55: Figure 55A Figure 55B

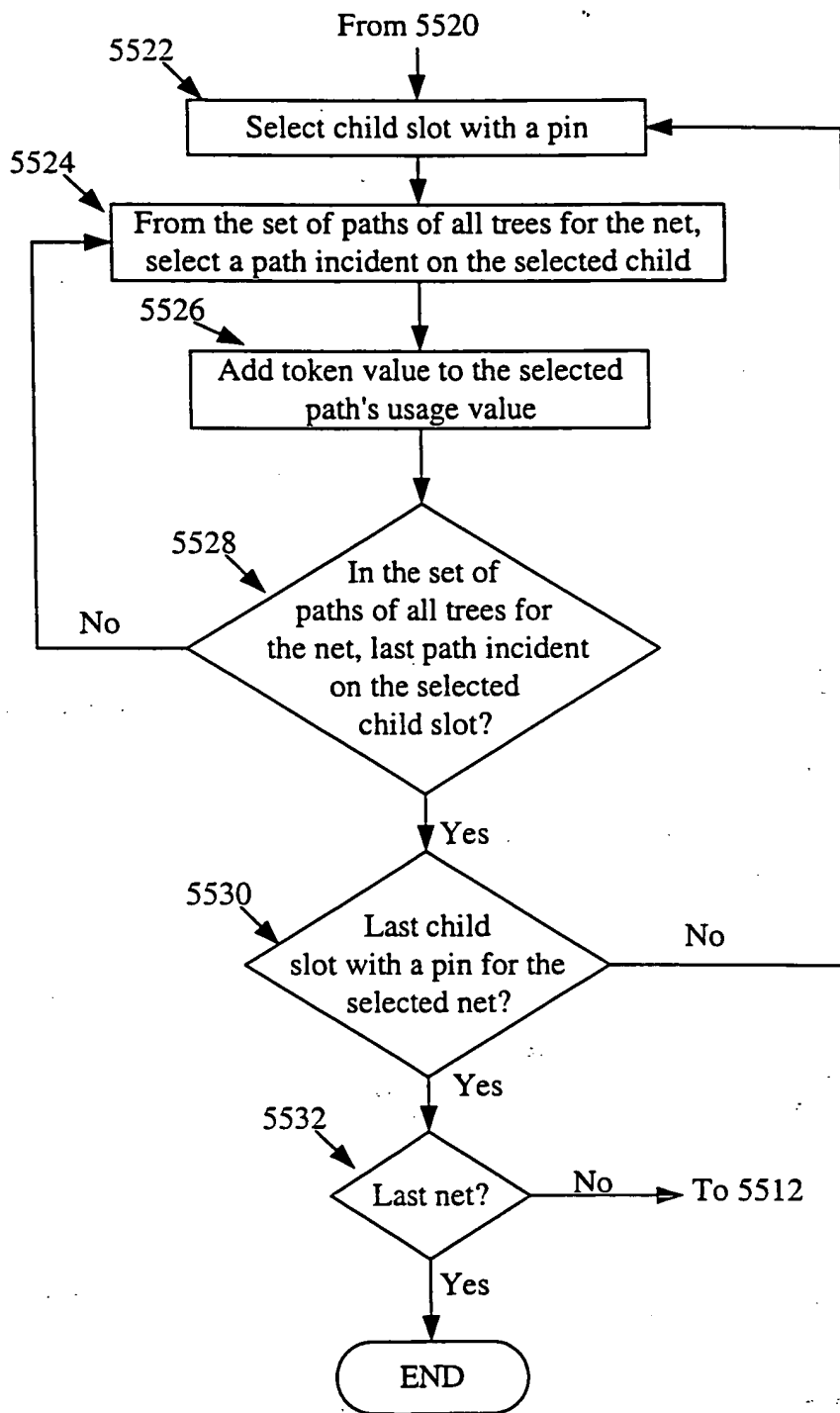


Figure 55B

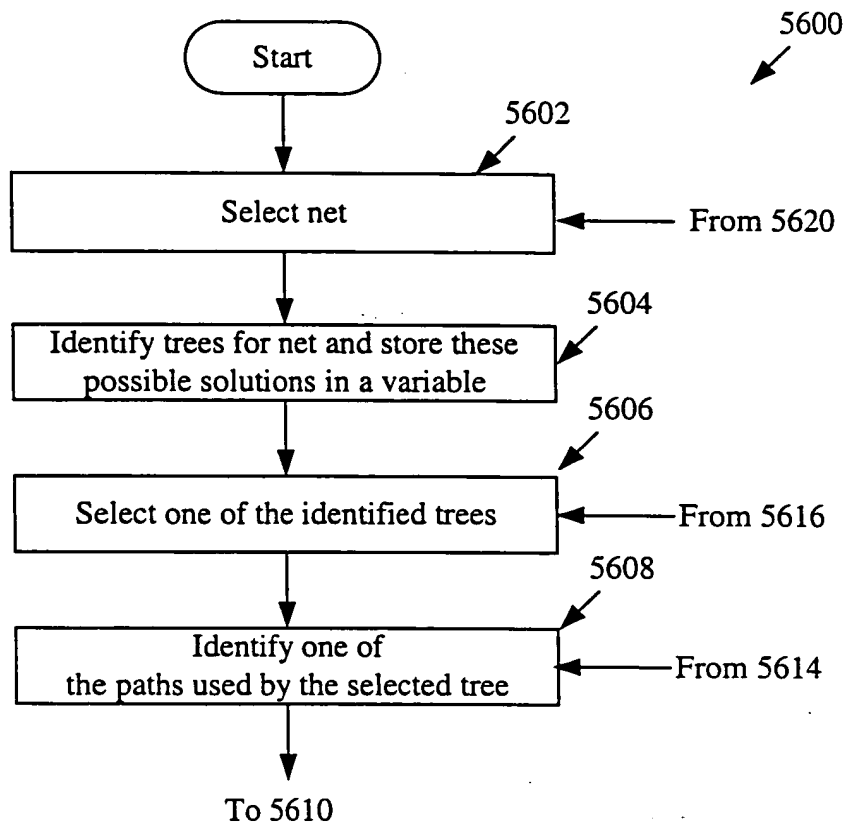


Figure 56A

Figure 56: Figure 56A
Figure 56B
Figure 56C
Figure 56D

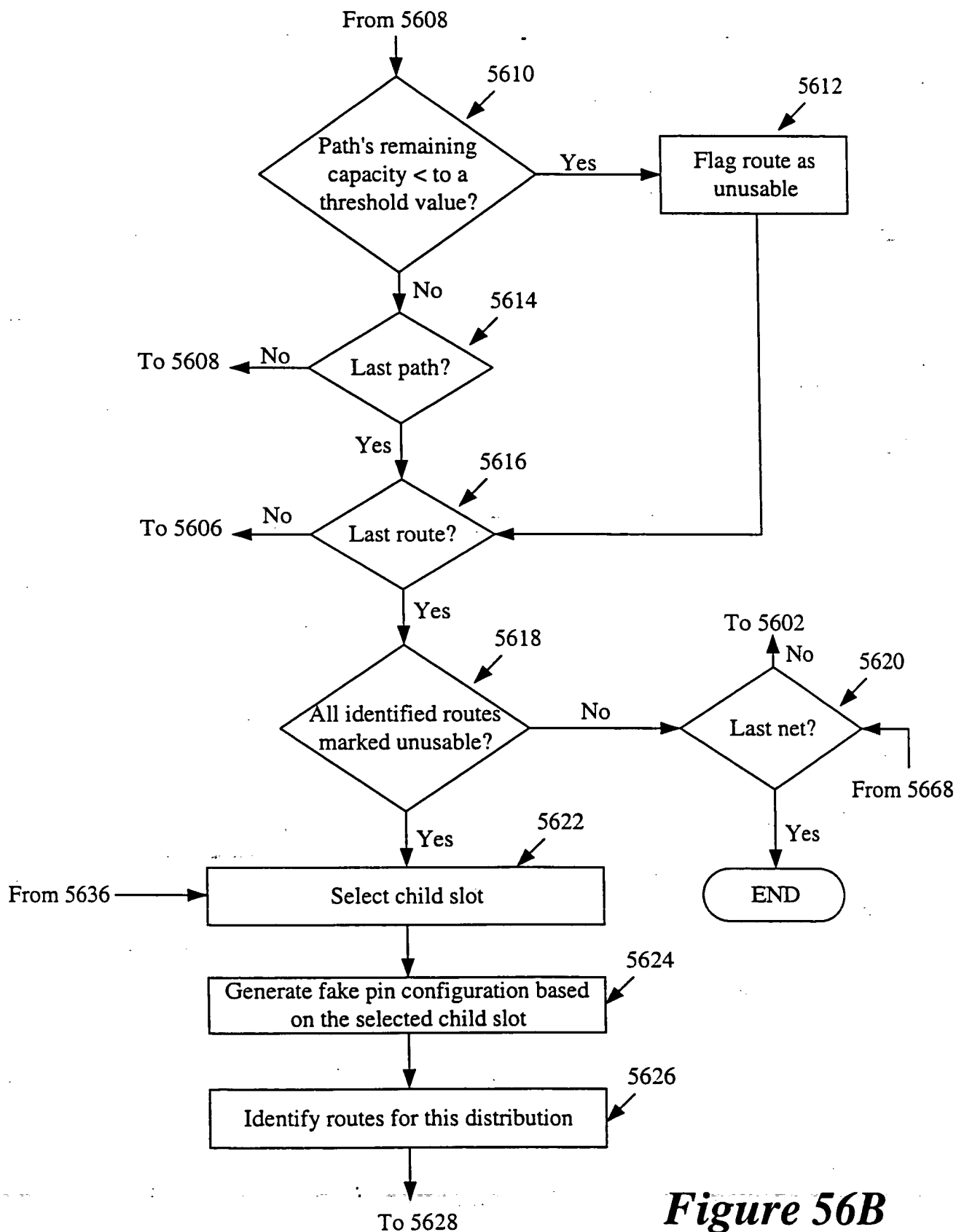


Figure 56B

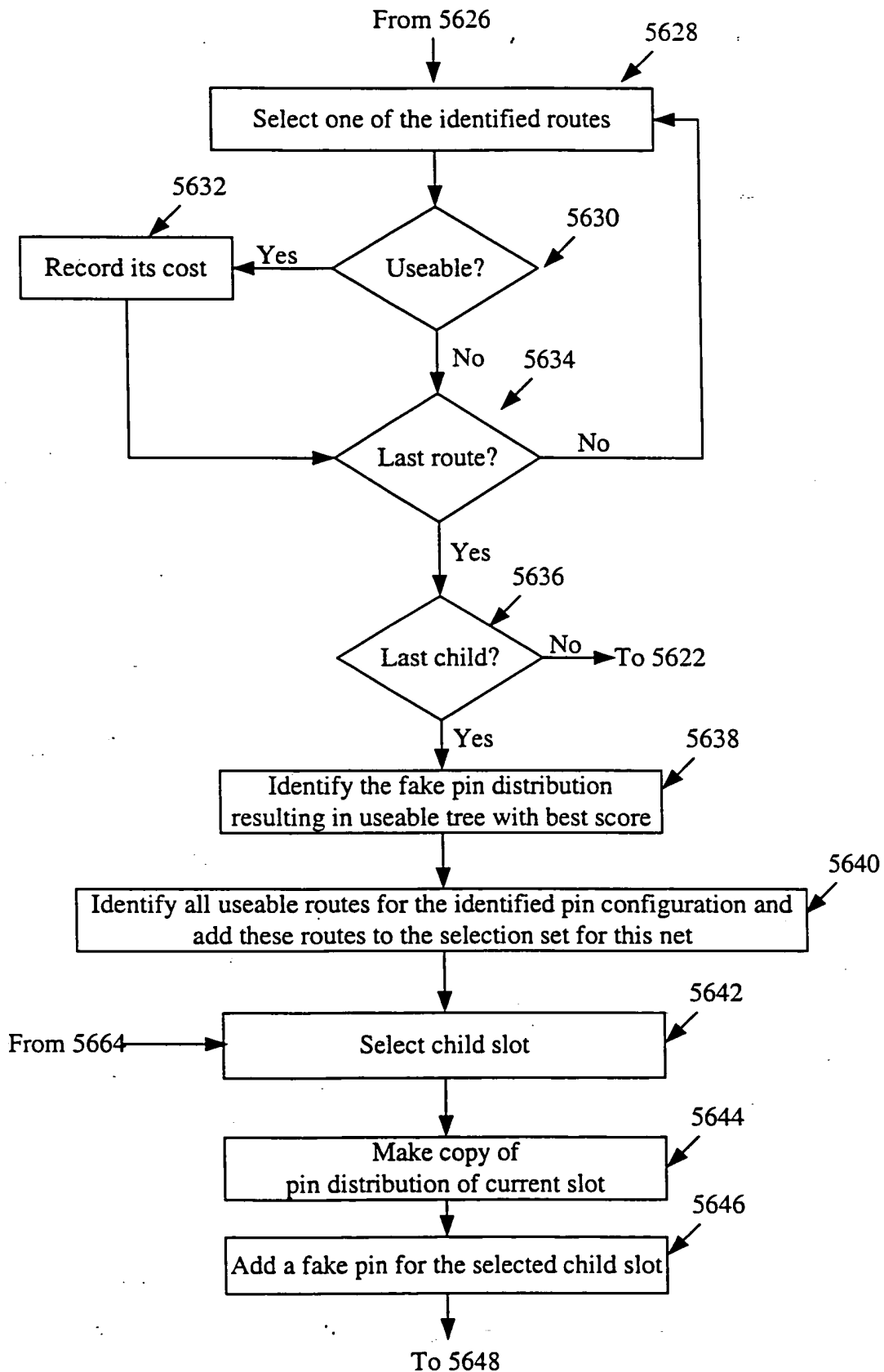


Figure 56C

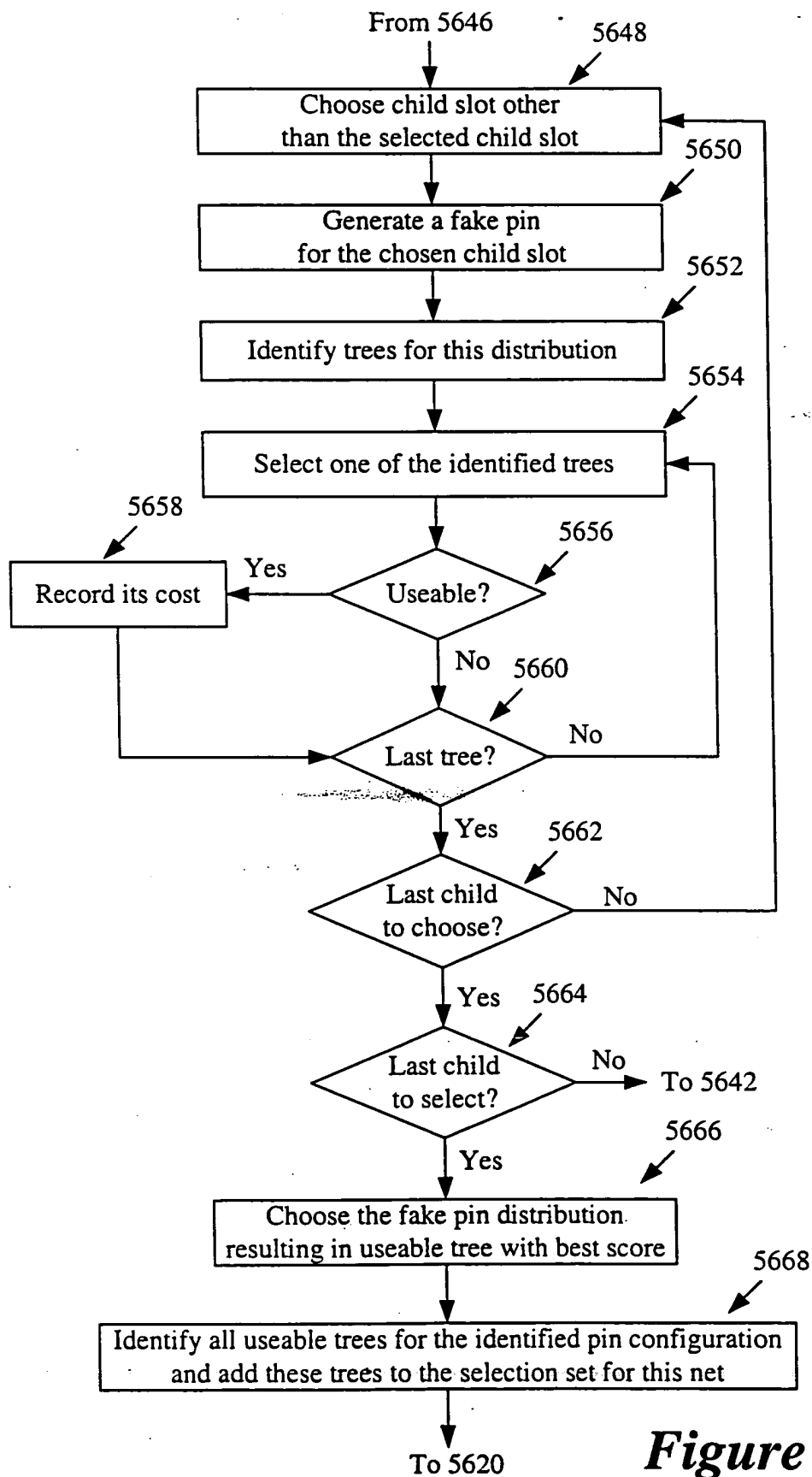
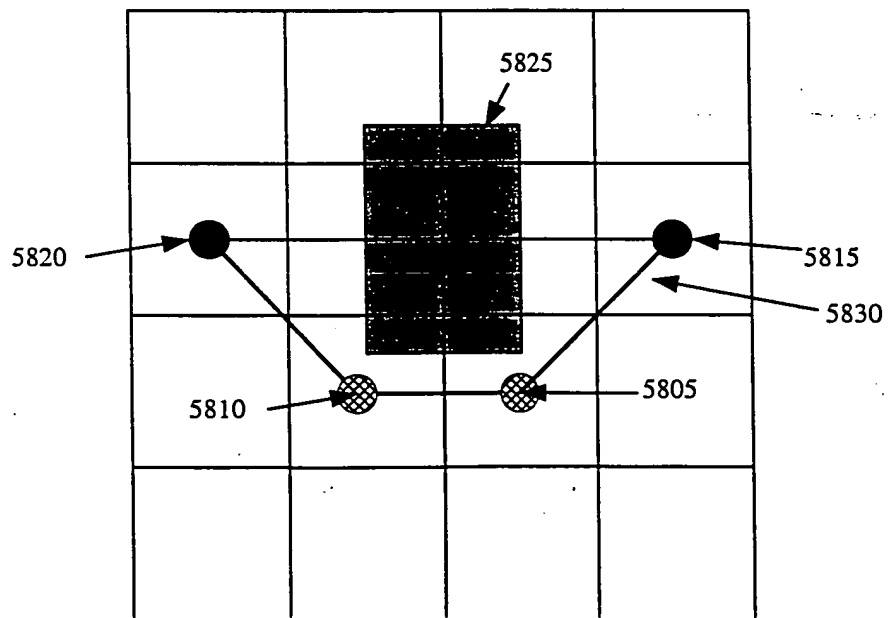
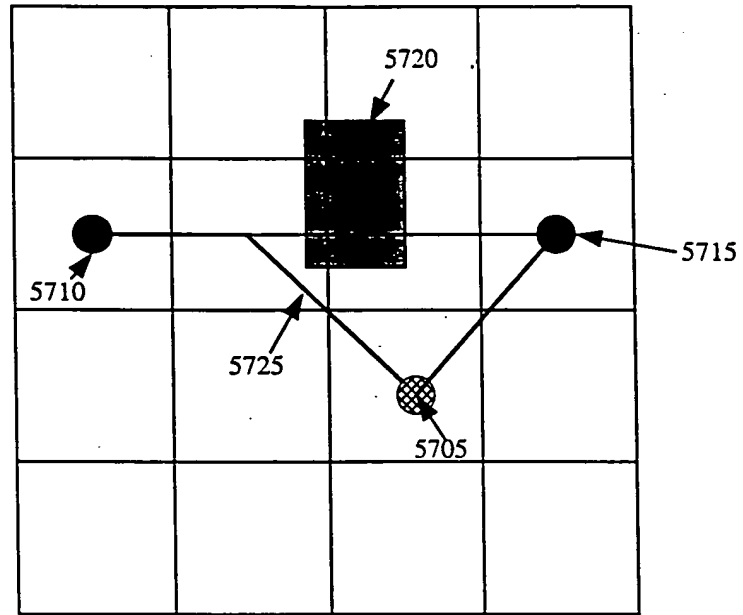


Figure 56D



2025-01-08 10:04:00

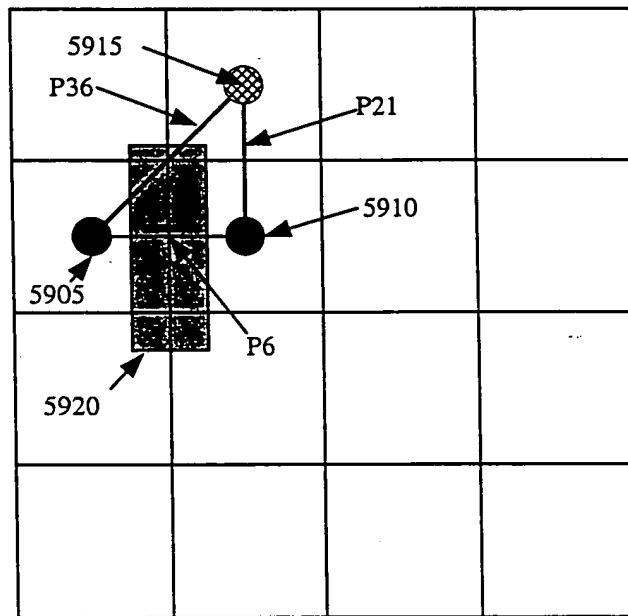


Figure 59

30430007

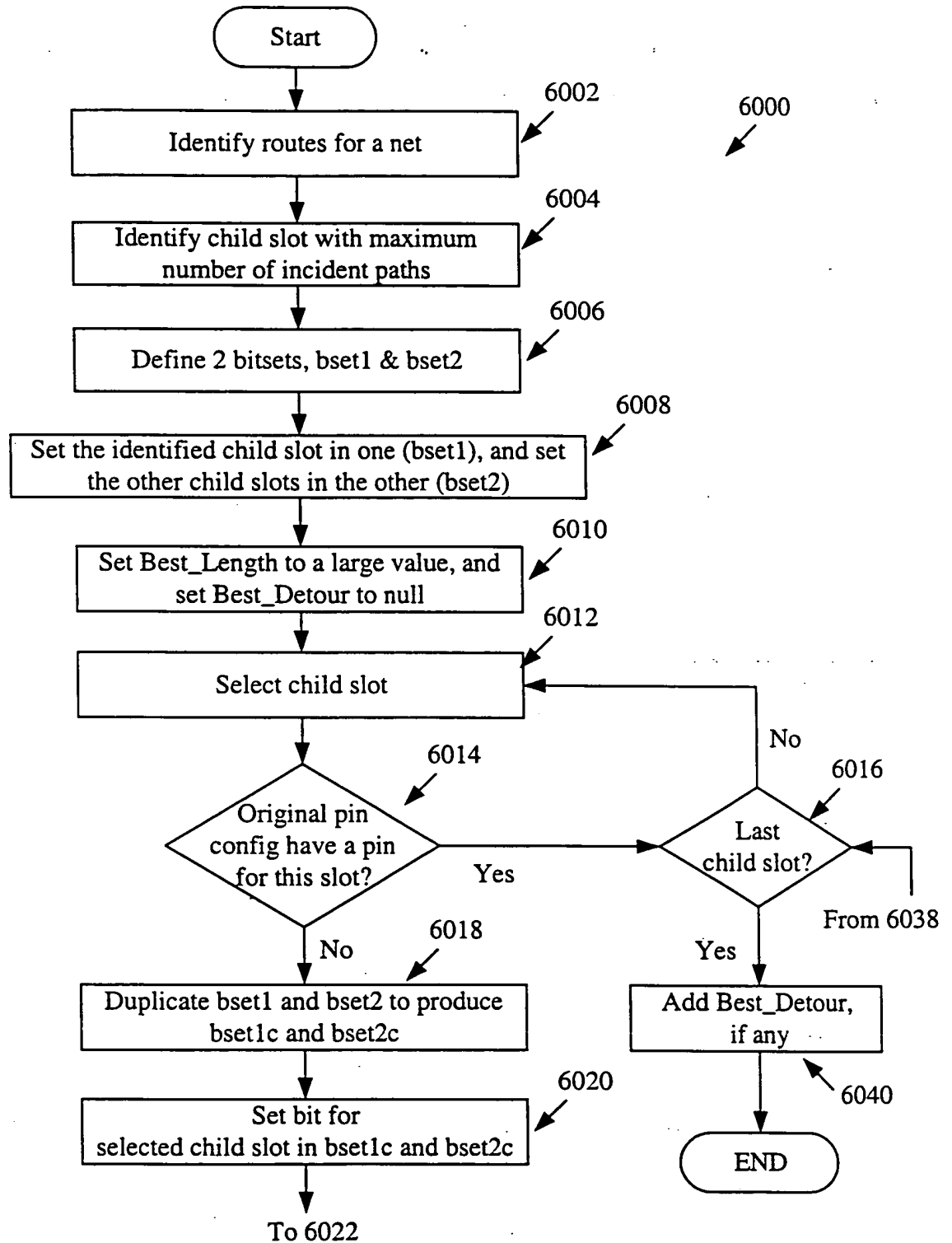


Figure 60A

Figure 60: $\frac{\text{Figure 60A}}{\text{Figure 60B}}$

TOYOTA

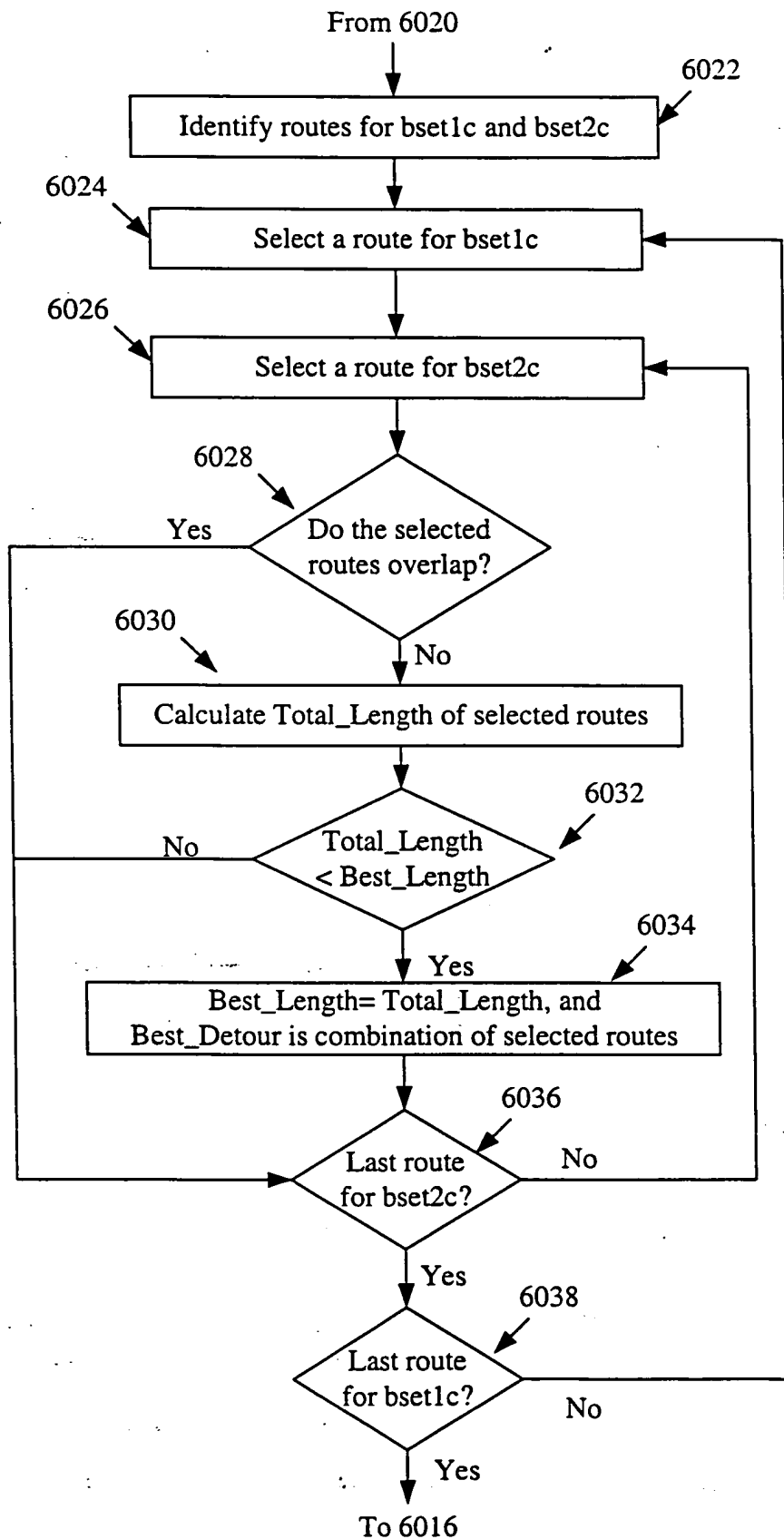


Figure 60B

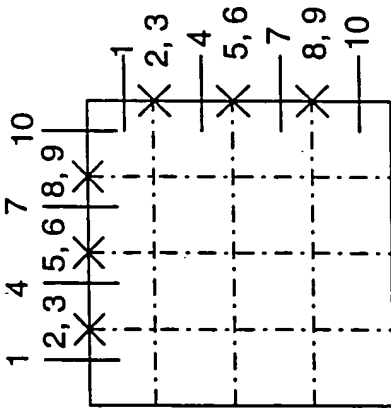


Figure 61

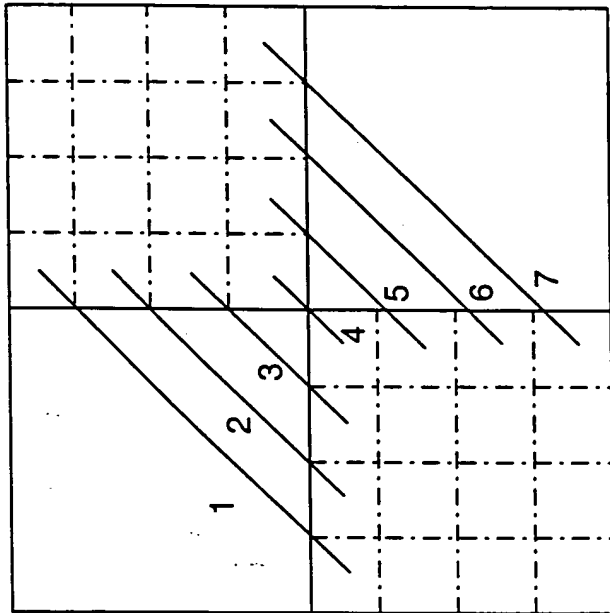


Figure 62

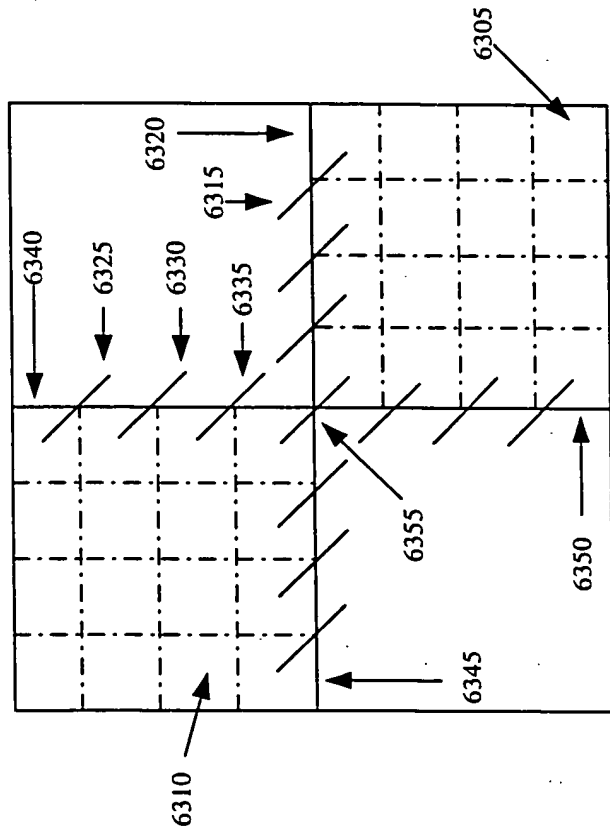


Figure 63

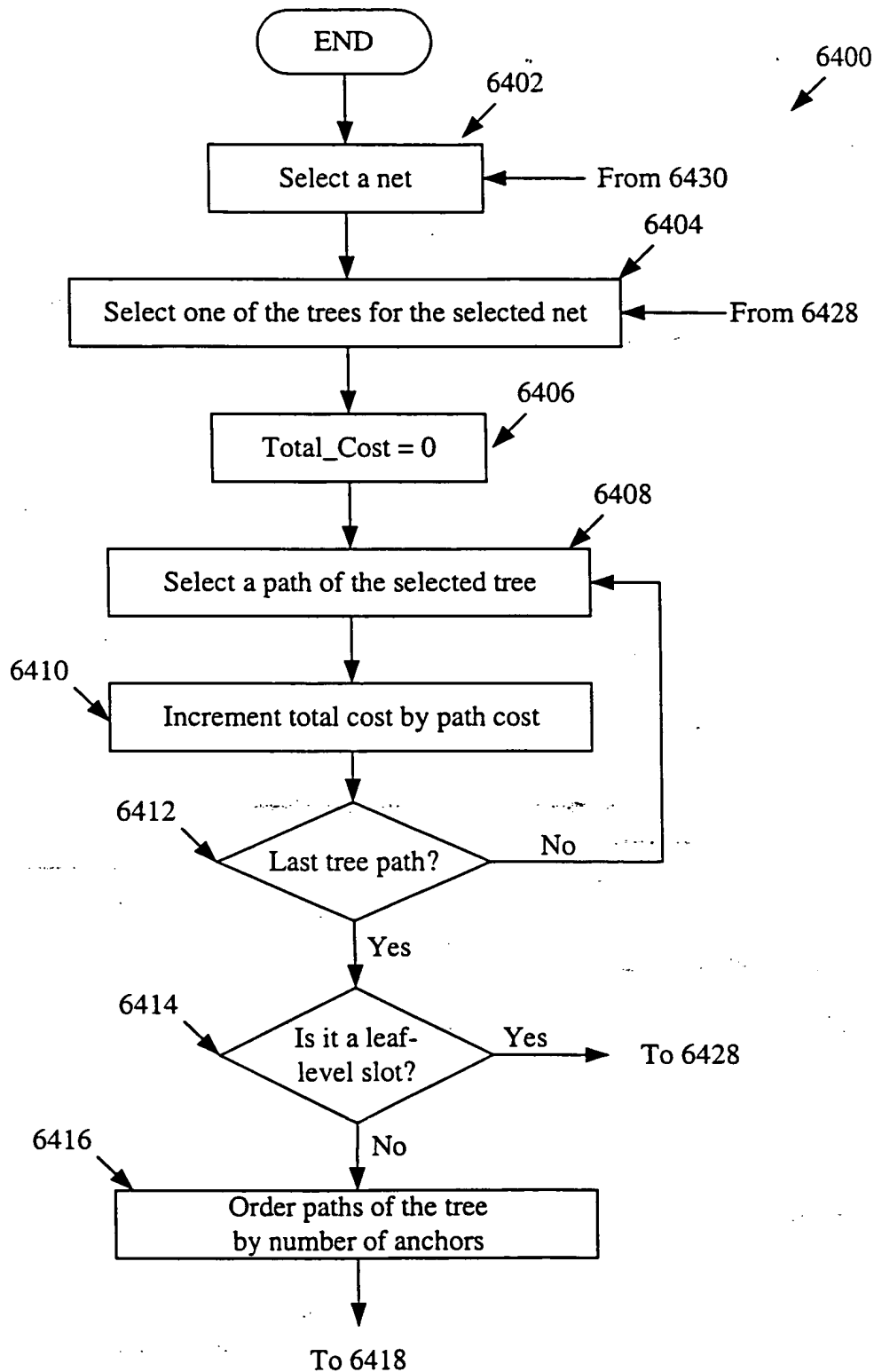


Figure 64A

Figure 64: Figure 64A
Figure 64B

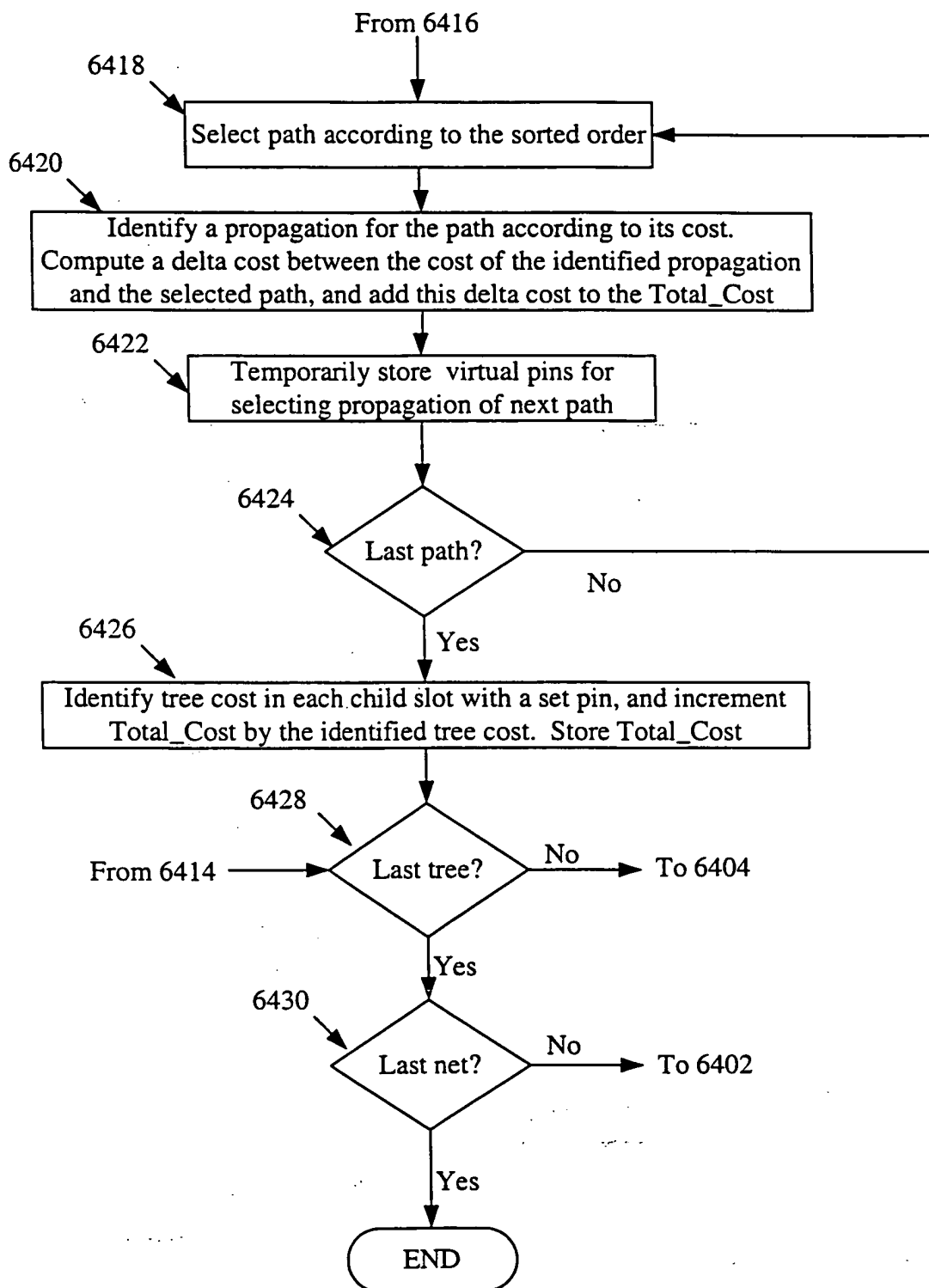


Figure 64B

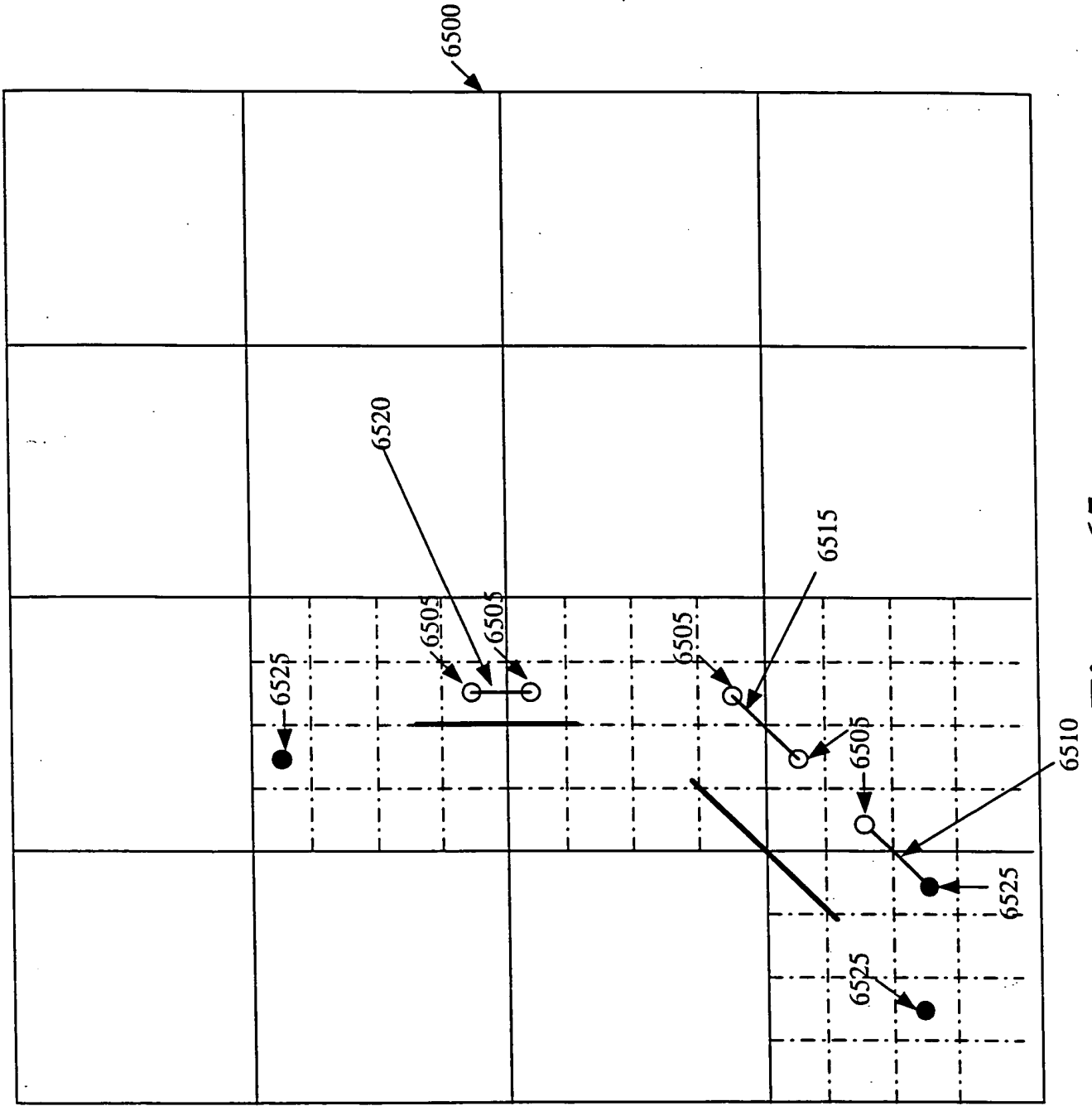


Figure 65

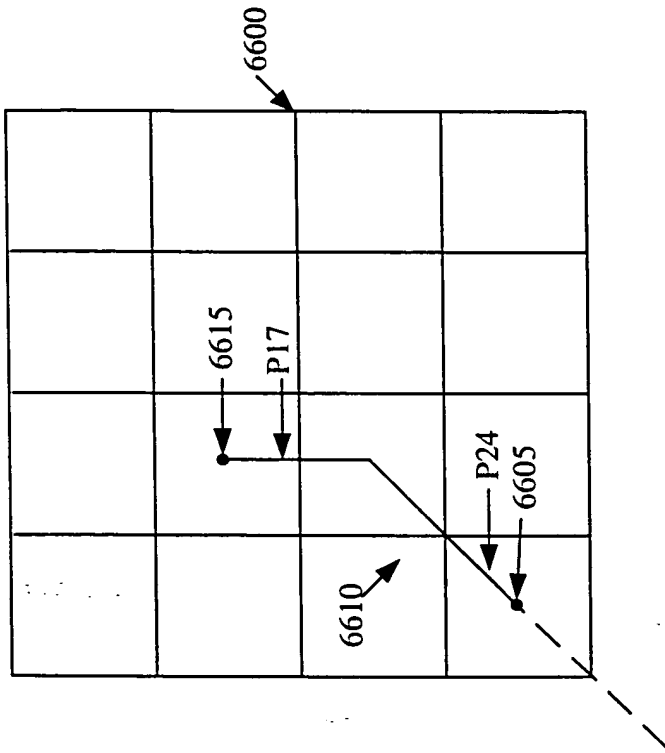


Figure 66

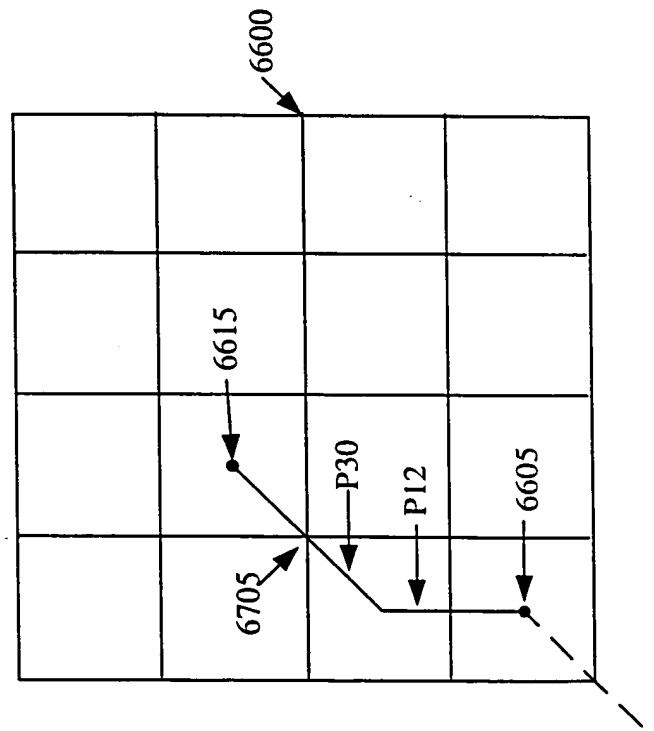


Figure 67

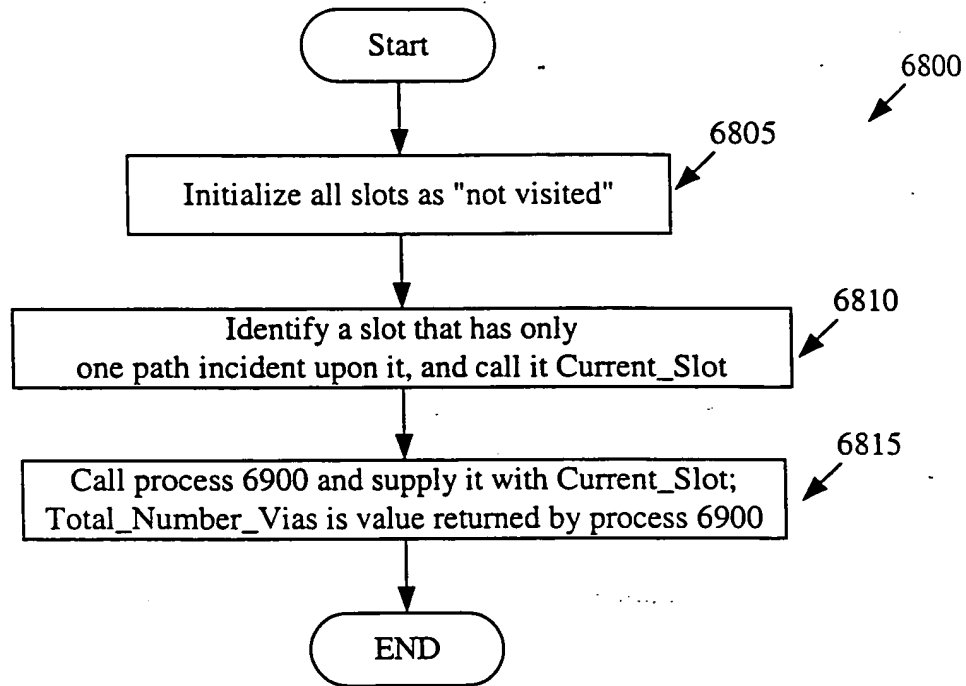


Figure 68

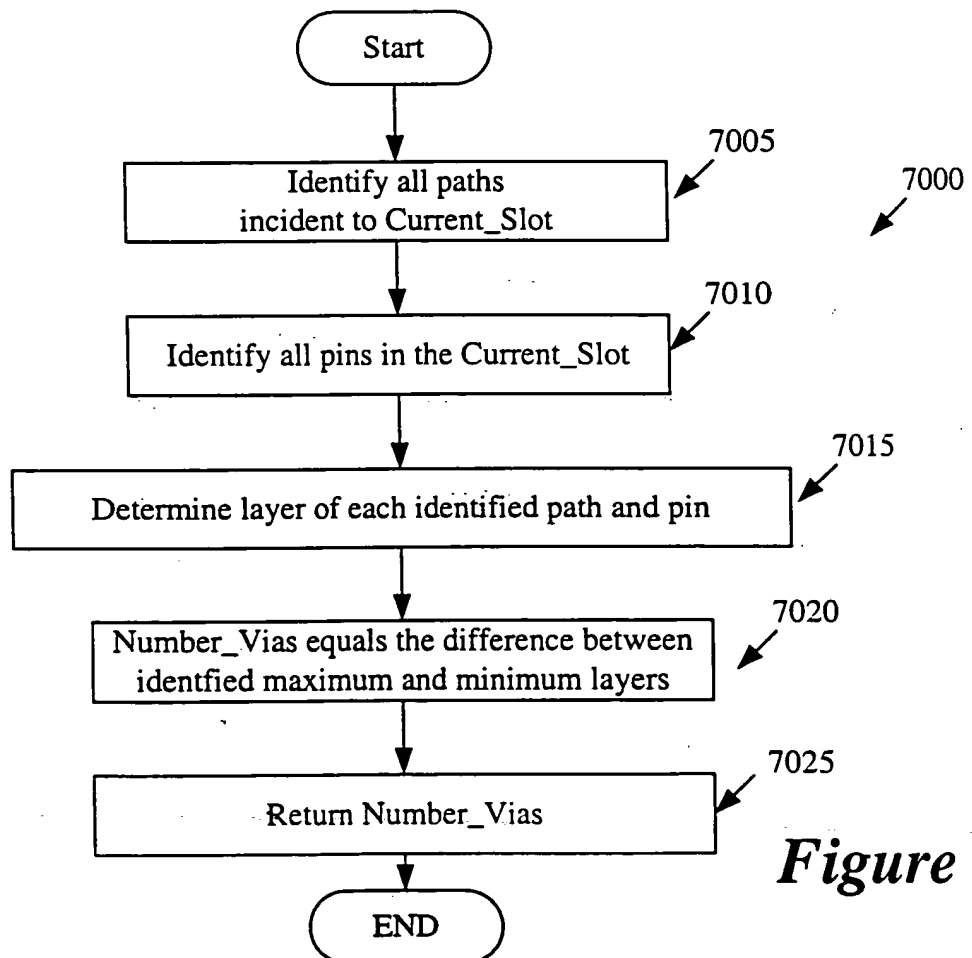


Figure 70

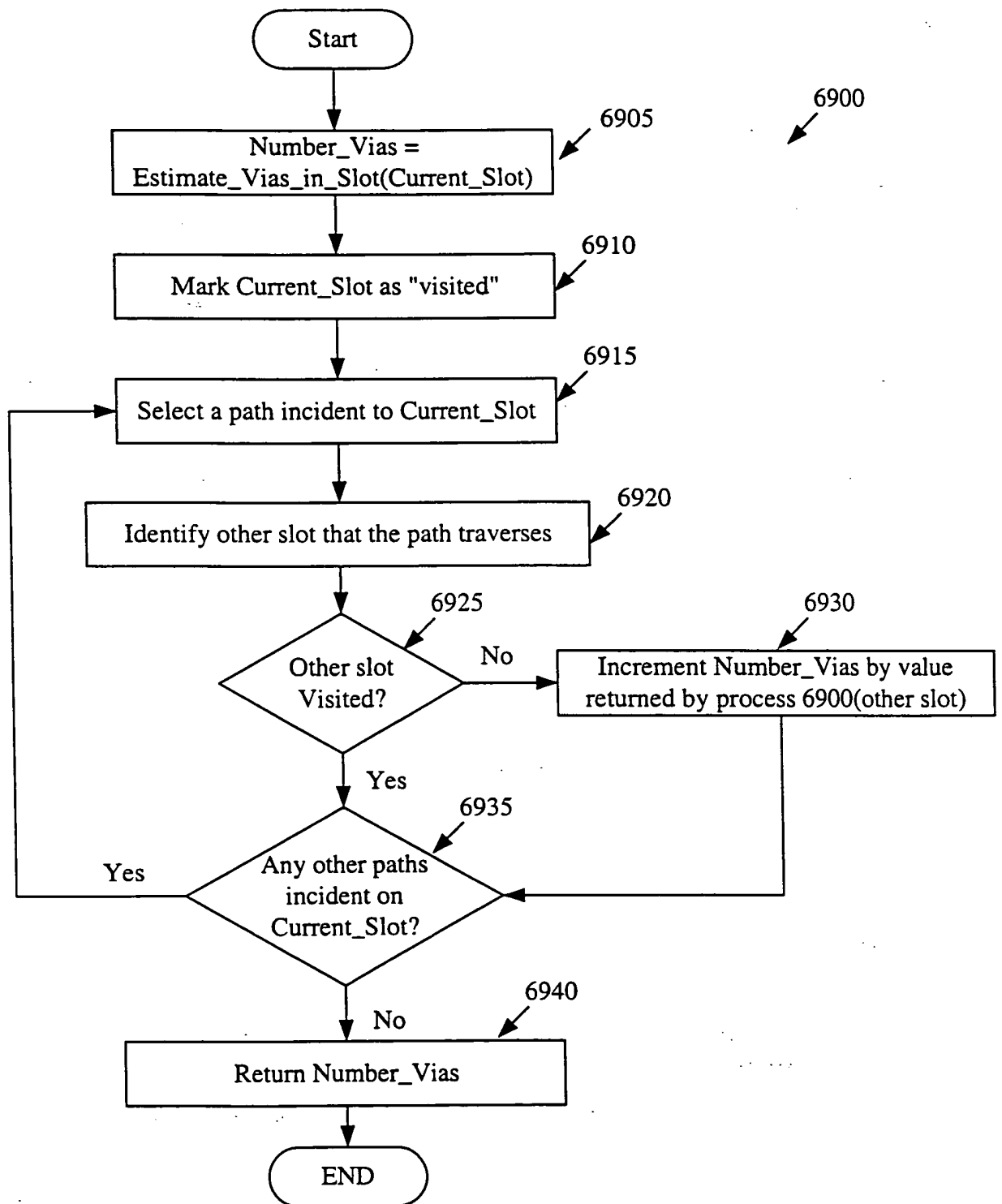


Figure 69

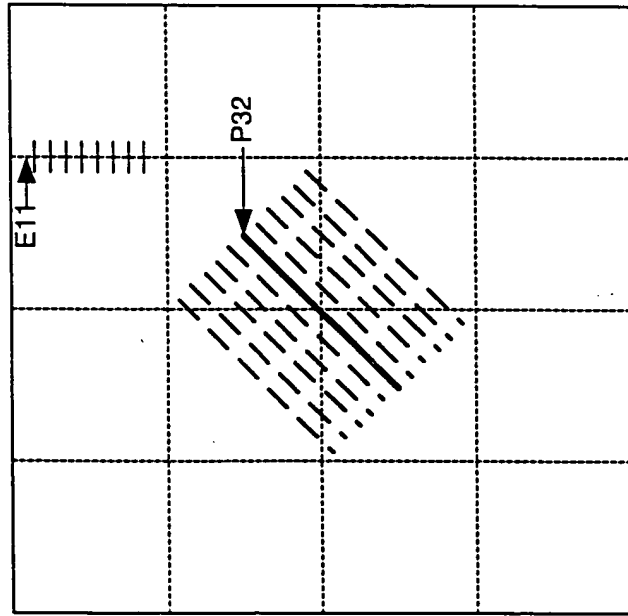


Figure 71

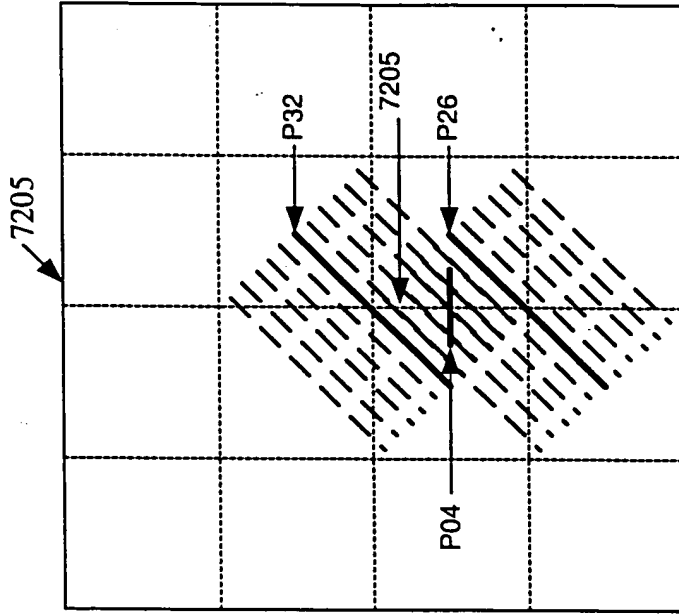


Figure 72

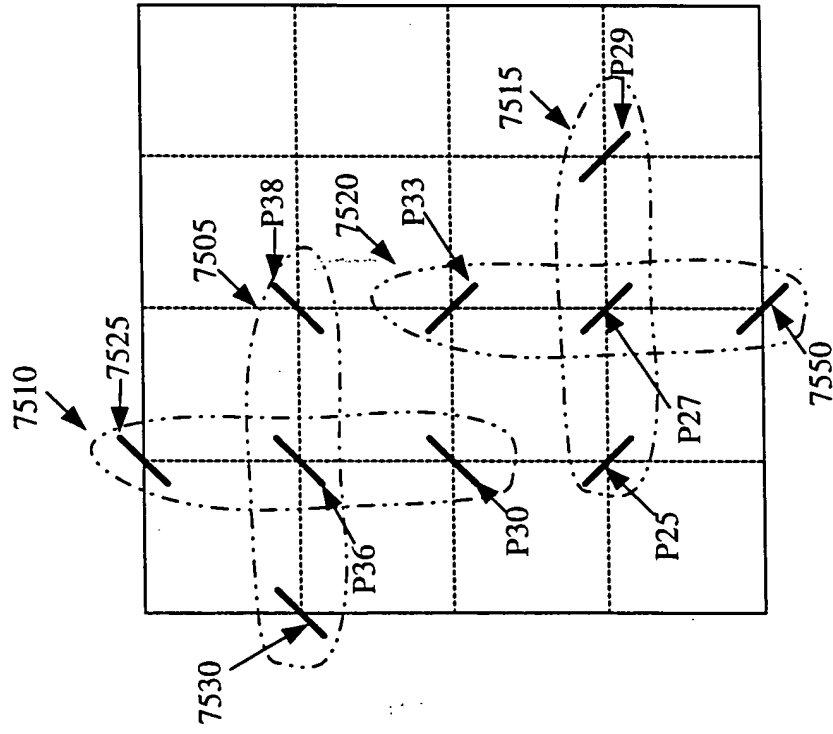


Figure 75

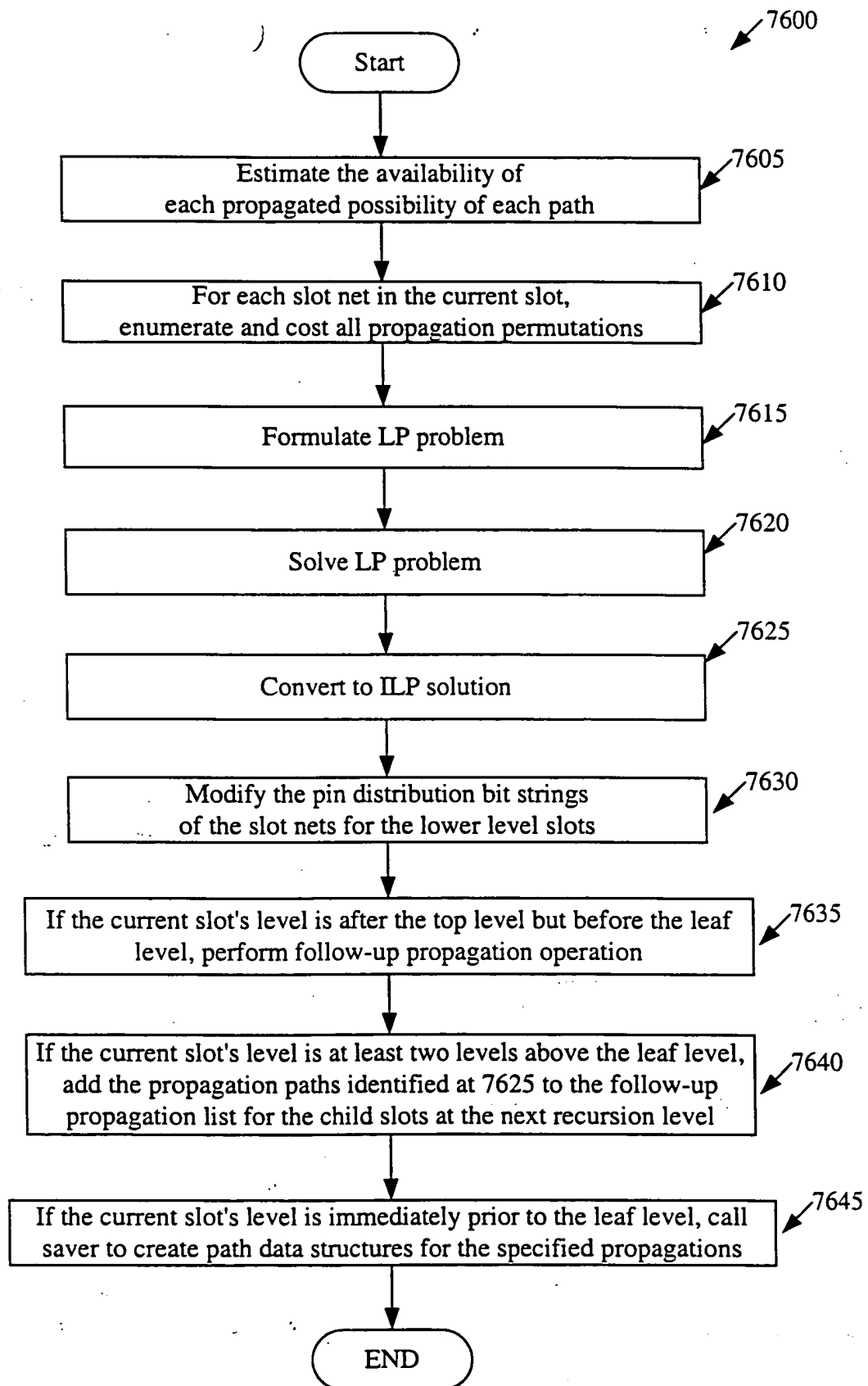


Figure 76

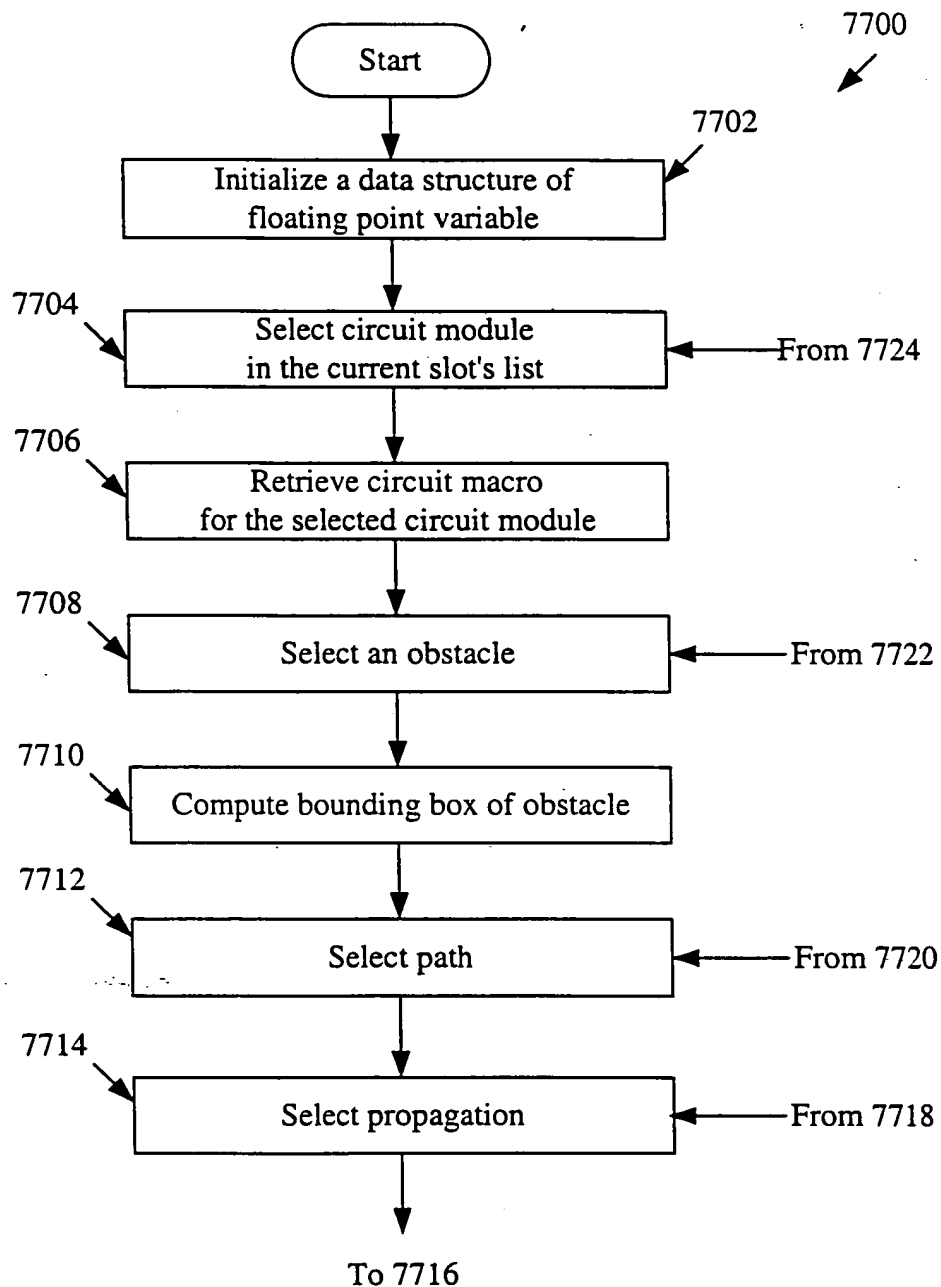


Figure 77A

Figure 77: Figure 77A
Figure 77B

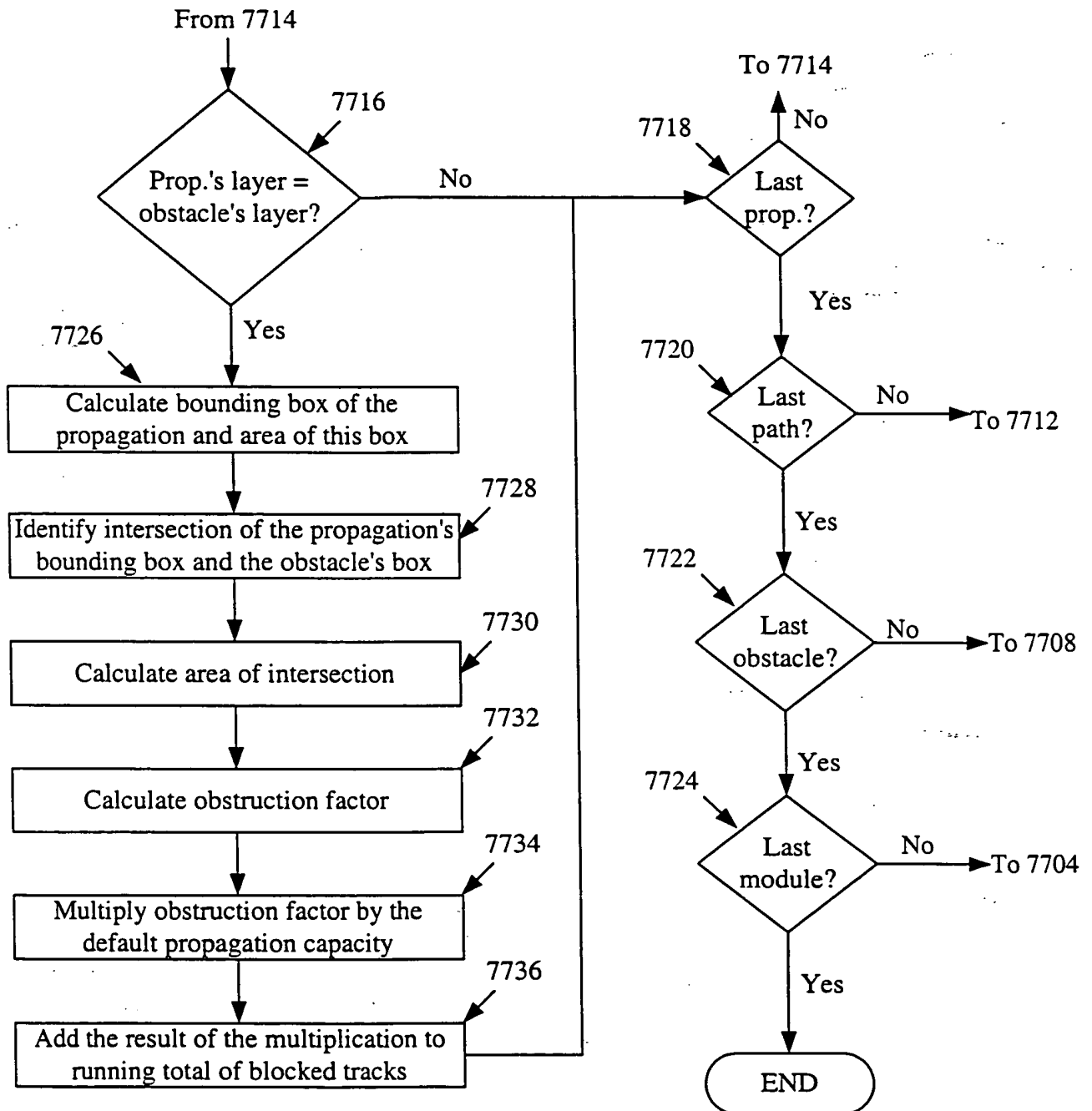


Figure 77B

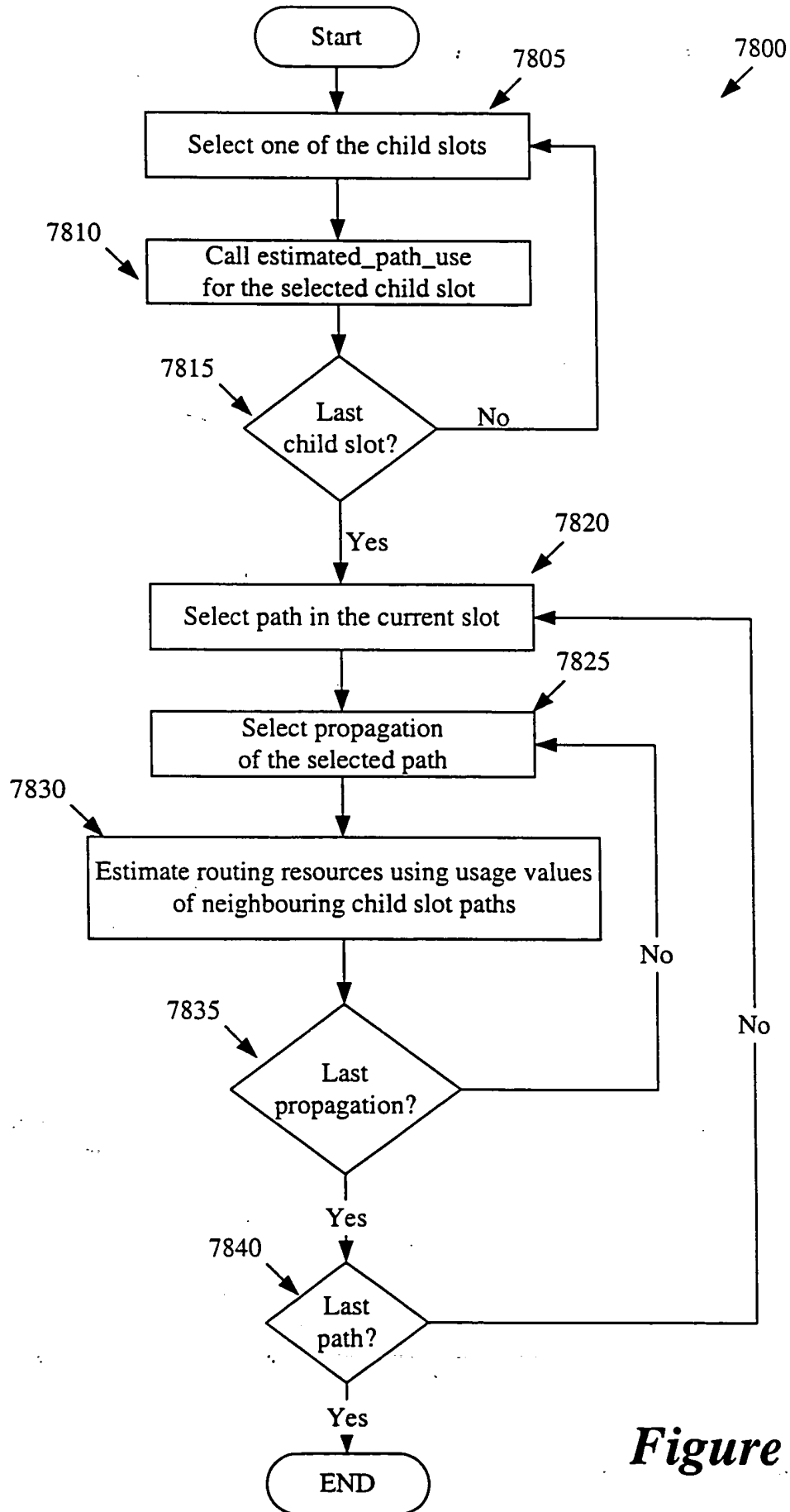


Figure 78

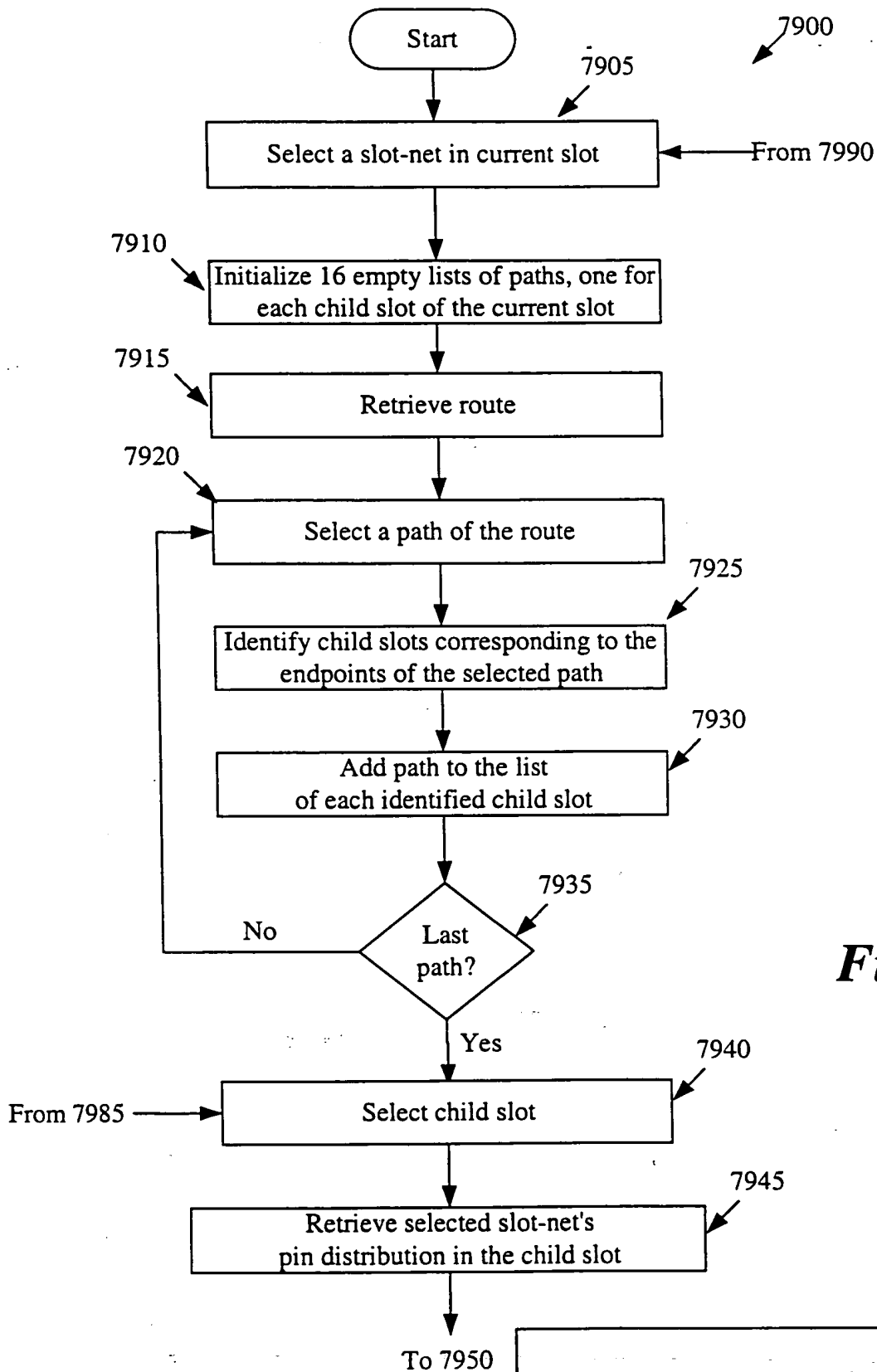


Figure 79A

Figure 79: Figure 79A
Figure 79B

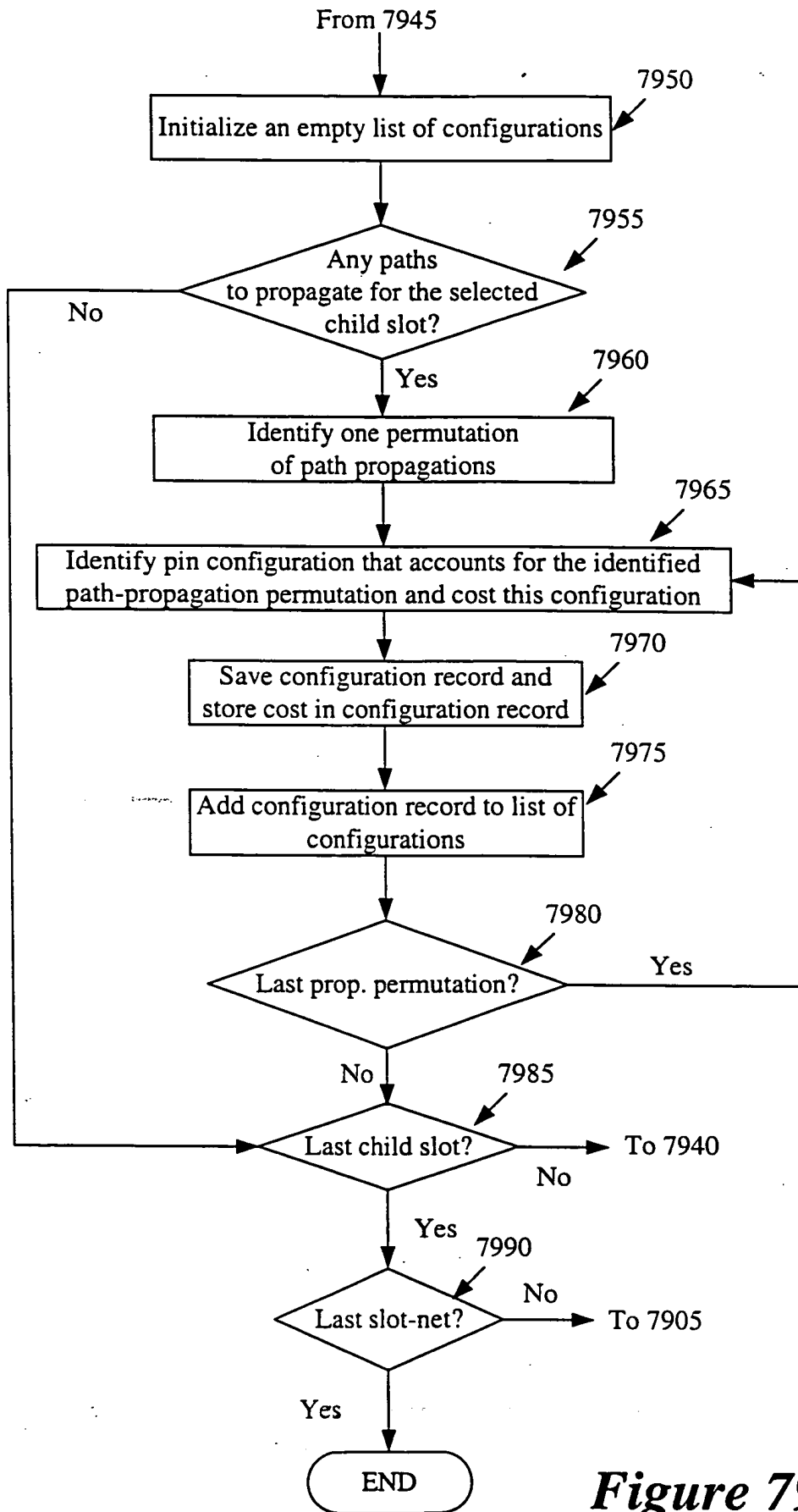


Figure 79B

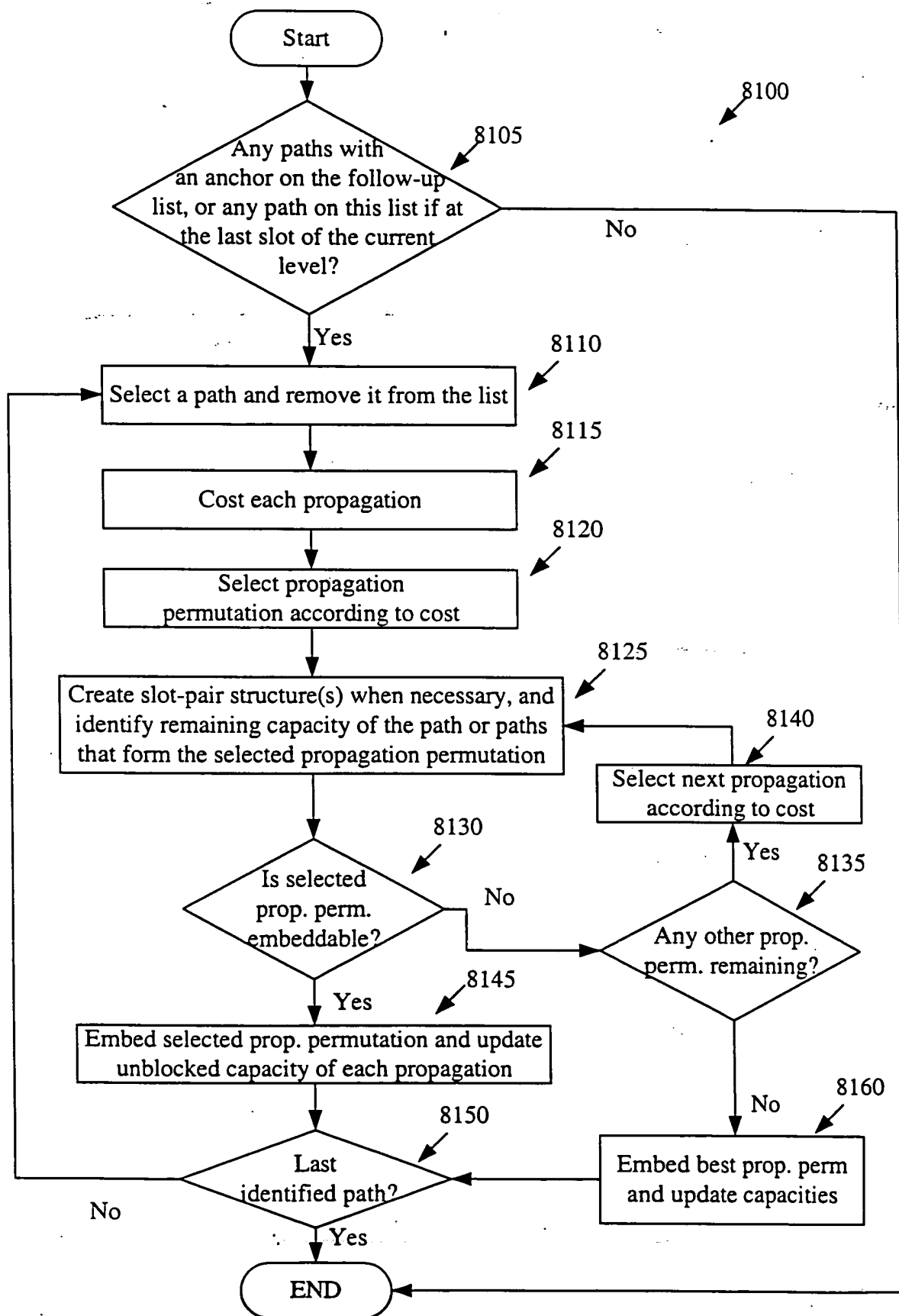


Figure 81

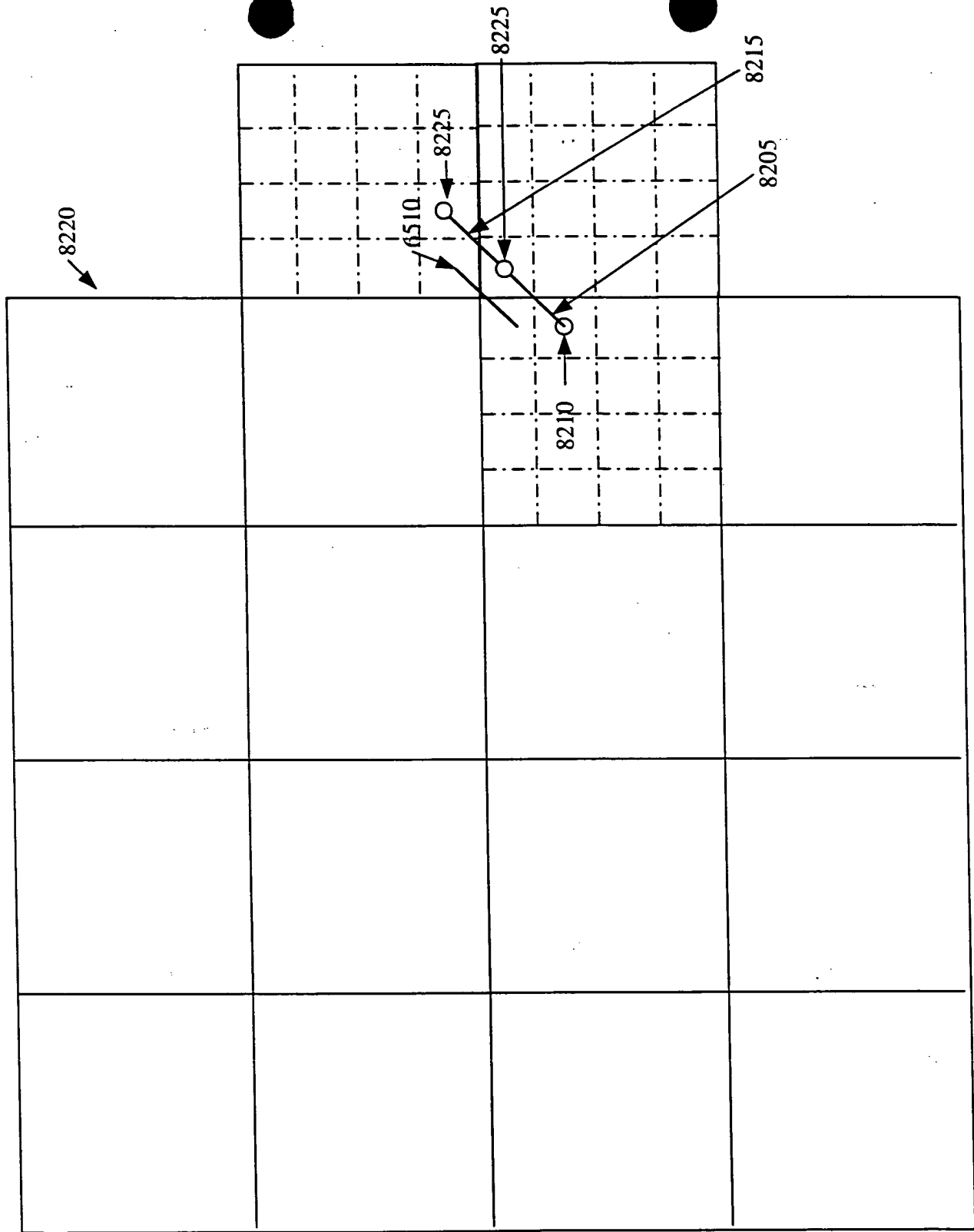


Figure 82

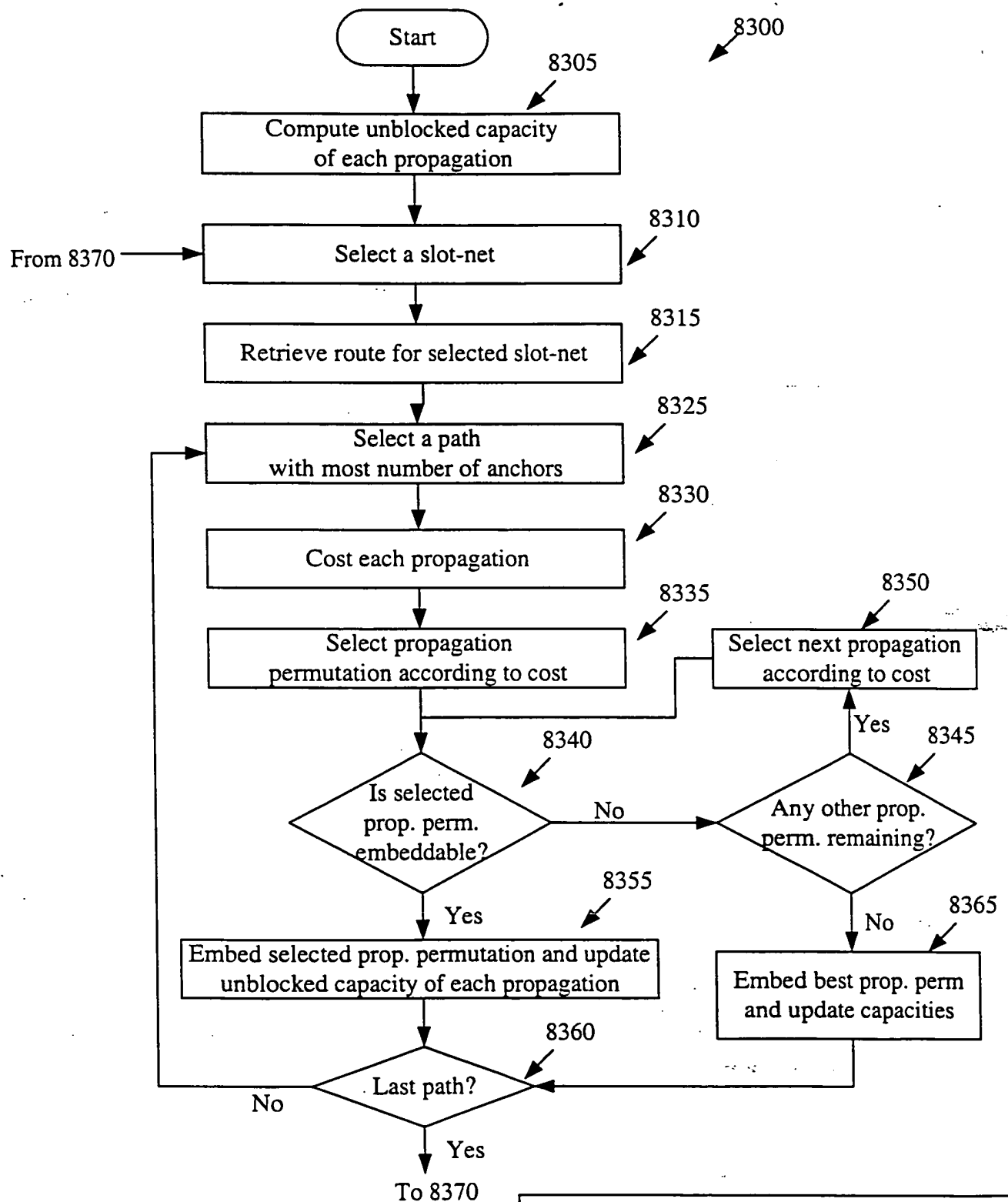


Figure 83A

Figure 83: *Figure 83A*
Figure 83B

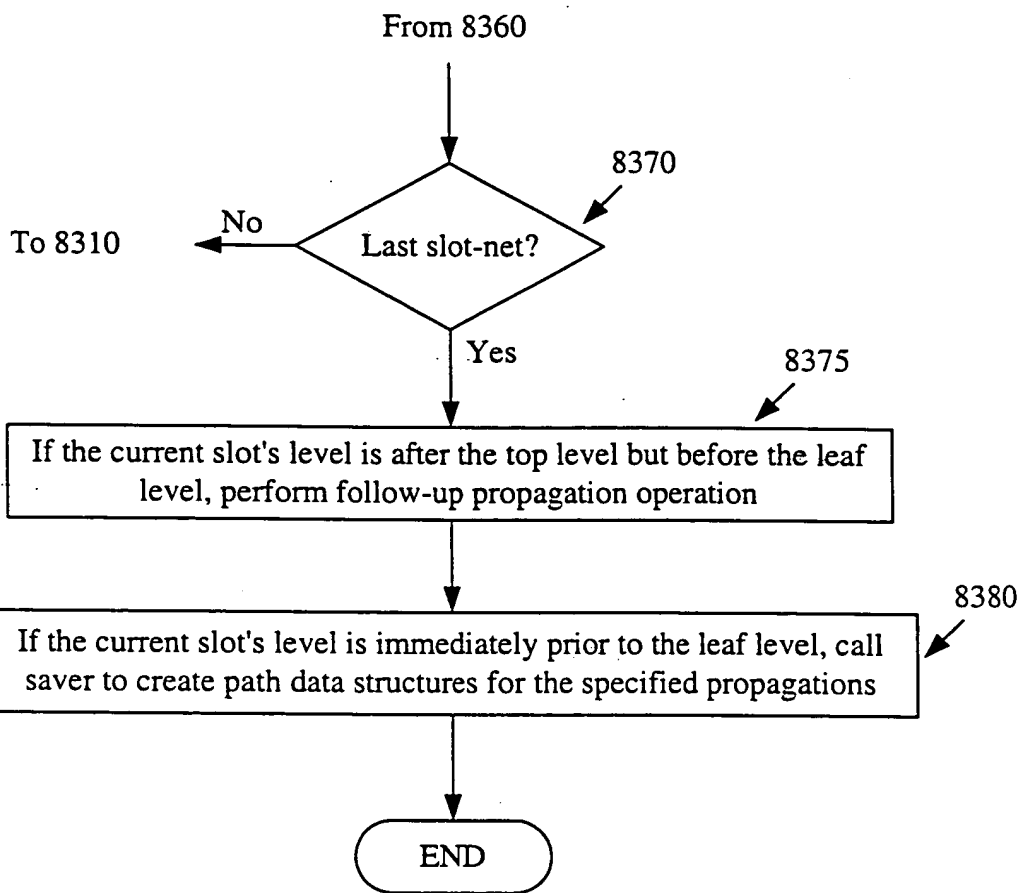


Figure 83B

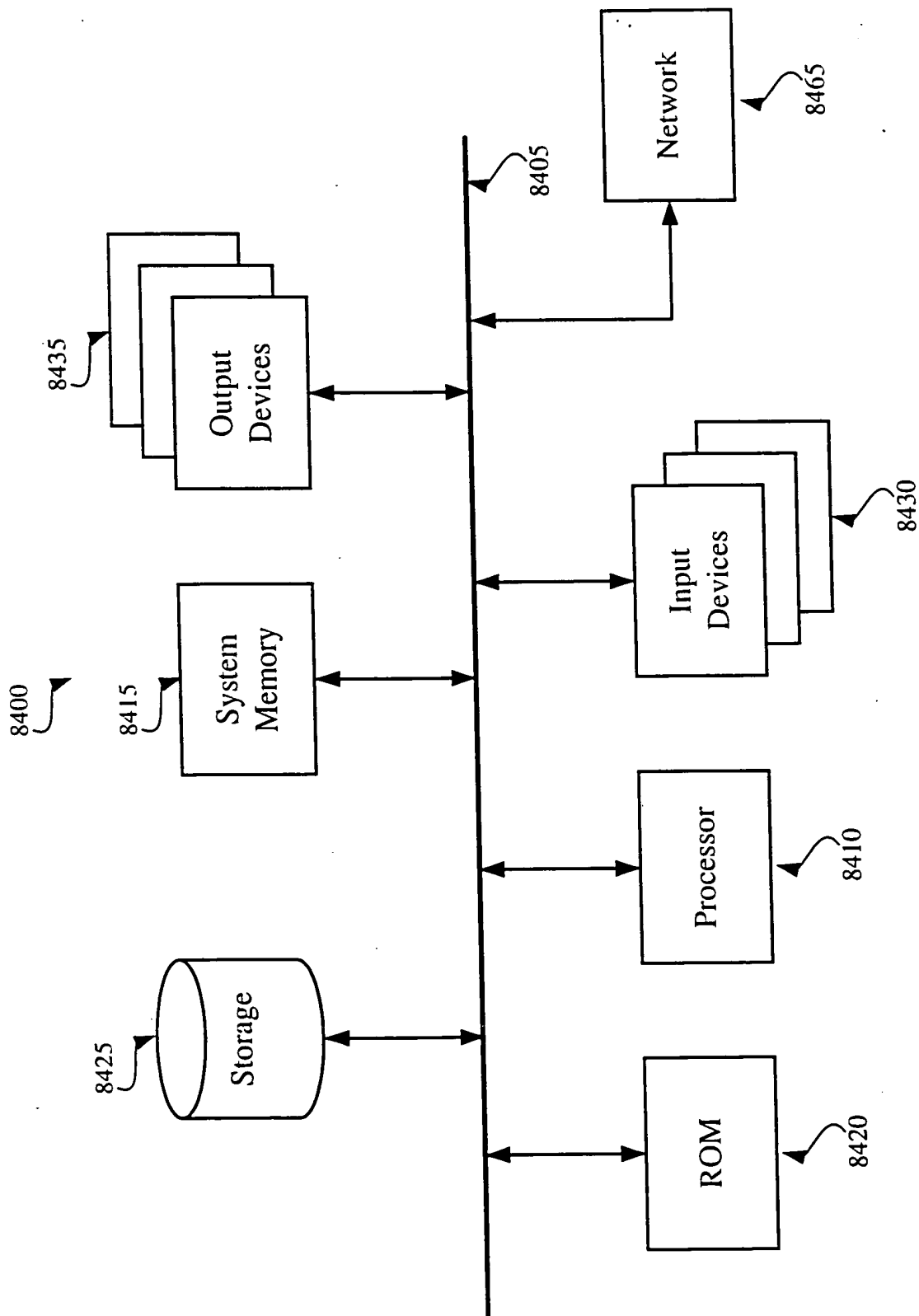


Figure 84